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# editorial

**T**he standmount (or bookshelf) speaker has long been a staple of audiophile systems. Although the bigger floorstander is often viewed as a mandatory requirement for full-range high-end installations, in many cases a well-judged two-way or three-way loudspeaker on the right stand can often sound more 'integrated' than a large, multi-way floorstanding loudspeaker.

In many modern listening spaces, the high-performance standmount loudspeaker also benefits from not being large floorstanders. With ever smaller buildings at ever-increasing prices, a large tower loudspeaker can be both physically intimidating and prone to overdriving the room itself. Smaller loudspeakers are increasingly at or approaching full-range replay, but tend not to have the same 'earth-moving' bass of an equivalent floorstander, and this has its advantages in the big city.

There are, however, two intellectual obstacles to get past with standmounts. The first is the notion of a price ceiling, beyond which floorstanders beckon. This doesn't hold today – someone who wants good music in a modern home might never consider a floorstander, despite having a very healthy budget set aside for their loudspeakers. Second is that term 'bookshelf' – very few of the loudspeakers tested in this issue would fit on a bookshelf: some demand free-space installation, while others are heavy enough that they would rip down any bookshelf you can think of, unless it was made out of cast iron or concrete!

I've used standmount and floorstanding loudspeakers for decades. As with most listeners, my

first loudspeakers were standmounts. I moved to floorstanders and back again several times, and am currently using standmounts (Raidho and Wilson) predominantly as reference points. I'm not alone in this, although braggadocio in the audio industry prevents some from admitting such things.

I think it's time to end the notion that big audio comes with bragging rights. While I wouldn't want to see the inverse of this (where big systems were criticised as dinosaurs), good audio doesn't need to come in large portions. Small really can be beautiful.

Our congratulations go out to all the winners of our latest competition, in association with AudioQuest. Jørn Normand in Norway, Juan Dominguez in Spain, and Michael Coupar, Kevin Hubbard and Liz Woolley in the UK will each receive a pair of the excellent and innovative AudioQuest Nighthawk headphones worth £499.

Alan Sircom  
editor@hifiplus.com

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# contents

# EQUIPMENT+

ISSUE 127

## COMMENT

- 4** **INCOMING!**  
Your views on all things audio
- 10** **STANDMOUNT LOUSPEAKERS**  
How to choose and install your next speakers
- 14** **THE BEST OF THE REST!**  
Our top standmount picks from recent issues

## MUSIC

- 114** **CONTEMPORARY, AUDIOPHILE, AND CLASSICAL MUSIC**
- 120** **CLASSIC ALBUMS**  
Television, *Marquee Moon*
- +**
- 46** **COMPETITION!**  
Win RHA T20 earphones worth £179.99!
- 80** **COMPETITION!**  
A Pristine Vinyl ViVac RCS2 worth £1,995 must be won!
- 86** **SUBSCRIPTIONS**
- 100** **COMPETITION!**  
Win a LH Labs Geek Out V2 worth \$299!
- 110** **ADVERTISER INDEX**

- 20** **KISO ACOUSTICS HB-X1**  
standmount loudspeaker
- 26** **GAMUT RS3**  
standmount loudspeaker
- 34** **KEF REFERENCE 1**  
standmount loudspeaker
- 41** **SONUS FABER CHAMELEON B**  
standmount loudspeaker
- 47** **FOSTEX PX5-HS**  
active standmount loudspeaker
- 52** **KAISER KAWERO! CLASSIC**  
floorstanding loudspeaker
- 61** **CYRUS AUDIO STEREO 200**  
stereo power amplifier
- 67** **STILLPOINTS APERTURES**  
room acoustics treatment
- 75** **MODWRIGHT PH 150**  
phono stage
- 81** **NOBLE AUDIO 4S**  
custom-fit in-ear monitor
- 89** **METRUM ACOUSTIC PAVANE**  
digital to analogue converter
- 95** **FOCAL SPHEAR**  
universal-fit earphone
- 101** **CAMBRIDGE AUDIO 851N**  
network streaming DAC preamp
- 107** **G-POINT GIGAWATT PC-4 EVO**  
power conditioner

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Or email them to [editor@hifiplus.com](mailto:editor@hifiplus.com)

# incoming!

in association with **audioquest**

## LETTER OF THE MONTH WINS A DRAGONFLY

Both AudioQuest and *Hi-Fi+* are passionate about music and the sound it makes. We know what makes a good audio experience, and we know what makes it better. Most modern audio equipment is good, but with the right attitude, right advice, and the right components, the sound it delivers can move from 'good' to 'great' to 'fantastic'. AudioQuest has to deal with a lot of queries regarding audio systems, because almost everything in an audio system is connected with a cable. The company has amassed a wealth of information on a range of topics in audio, both in general terms and with a team comprising keen, specialist audio experts willing to impart their expertise.

Which is why we've teamed up with the good folks at AudioQuest to award the letter of the month a free AudioQuest Dragonfly.

### Not drowning, WAVing!

I'm confused by audio formats. As they are both uncompressed file formats, what is the difference between AIFF and WAV? My dealer suggests one is Apple-based and the other one PC-based, but I've heard WAV is not as good at handling metadata as AIFF, and also something about 'big endian' and 'little endian'. Ideally, I want to transfer my CD files in the least damaging way. I don't want to mess with lossless or lossy compression, because I think they are compromising the music. Is there any compromise in WAV and AIFF?

**Xavier Chiofalo, via email**

*AIFF (or Audio Interchange File Format) is not an Apple-only file type. Apple developed AIFF from the Interchange File Format (IFF) used by Electronics Arts (which was widely used on Amiga Computers) in the late 1980's. Because of this it has become the de-facto lossless and non-compressed standard used on Apple, even dating back to their pre-Intel (Motorola) processor days. But it can be used on Macs and PCs without problems.*

*The audio data in a standard AIFF file is typically uncompressed PCM (Pulse Code Modulation). Similarly, WAV audio files are usually uncompressed and are encoded using LPCM (Linear Pulse Code Modulation). They are functionally the same, so bit perfect ripping of your CD's will give a verbatim copy of what is on your discs using either format.*

*From a sound/audio perspective, there is really nothing to choose between them, but what has always been in AIFF's favour has been its ability to handle metadata reliably. AIFF files can store metadata themselves but also handle the embedding of extra ID3v2 tag chunks as well as XMP (Extensible Metadata Platform) data.*



*WAV files can also handle extended tagging, but the experience can be a little hit and miss, as issues can arise when a piece of player software isn't configured to read the file completely the same way as the encoding software stored it. This incompatibility can result in the data chunks holding the extended metadata not being reliably read. We recommend AIFF for that reason, because we know that if you move your music files from one computer to another, the metadata and tags are far more likely to stay intact.*

*Your question about the "endian" nature of the formats isn't totally a red-herring as it refers to where certain bytes are stored in the data 'word'; big-endian systems store the most significant byte in the smallest memory address, and vice versa for little-endian. This could and would cause issues, but thankfully not anymore. We live in a very cross platform world and media files are really well handled on all platforms, in part because computers use common hardware now.*

**Robert Hay – AudioQuest**



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## Dieter Burmester

It is with great sadness that we have received the news of the untimely passing of one of the Audio Industry's great stalwarts.

Dieter Burmester was a charming, highly motivated and intelligent man. Our thoughts go out to his close family and the wider Burmester family as he always referred to his colleagues across the globe.

Burmester posted the press release below:

### Founder and owner Dieter Burmester deceased

Berlin, August 18, 2015. It is with great sadness but also a deep sense of gratitude for all of his achievements, Burmester Audiosysteme GmbH announces the unexpected death of the company founder and CEO Dieter Burmester. Dieter passed away after a short but severe illness in Berlin-Zehlendorf on August 15, 2015. Dieter Burmester was the founder and CEO of the company until his death.

Dieter Burmester's mission had always been to create the perfect blend of musical sound, technological innovation and timeless design. Today, the brand Burmester has a global reputation for uncompromising sound and craftsmanship. Dieter Burmester was born in 1946. As a musician and engineer he embodies these ideals together with his team.

Ten years ago, Burmester accepted the challenge to implement the experience of high end sound into the automobile. Following the successful debut in the Bugatti Veyron Burmester now also offers high end sound for premium cars from Porsche and Mercedes-Benz.

Dieter Burmester was an internationally accepted and well-known pioneer of the high end industry. Many of his legendary audio components have turned into icons of the high end world.

His passion for music and the reproduction of music at the highest levels of quality had lead him to continuously break new ground. His creative energy and his captivating enthusiasm inspired him to develop and realize extraordinary projects.

Passing on his profound knowledge and his personal art of hearing to the team at Burmester Audio was a matter of the heart for Dieter Burmester. We thank Dieter for his decades of inspiration and knowledge and driven attention to detail. Together with his wife Marianne Burmester the team at Burmester will continue to run the company as he would have wished. +







# Muon

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The result of Ross Lovegrove's unique design and KEF's acoustic expertise, KEF Muon has now evolved.

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Arguably the world's most extraordinary audio speaker is now even better.



See the Muon and more of KEF's Flagship products at The Hi-Fi Show Live 2015



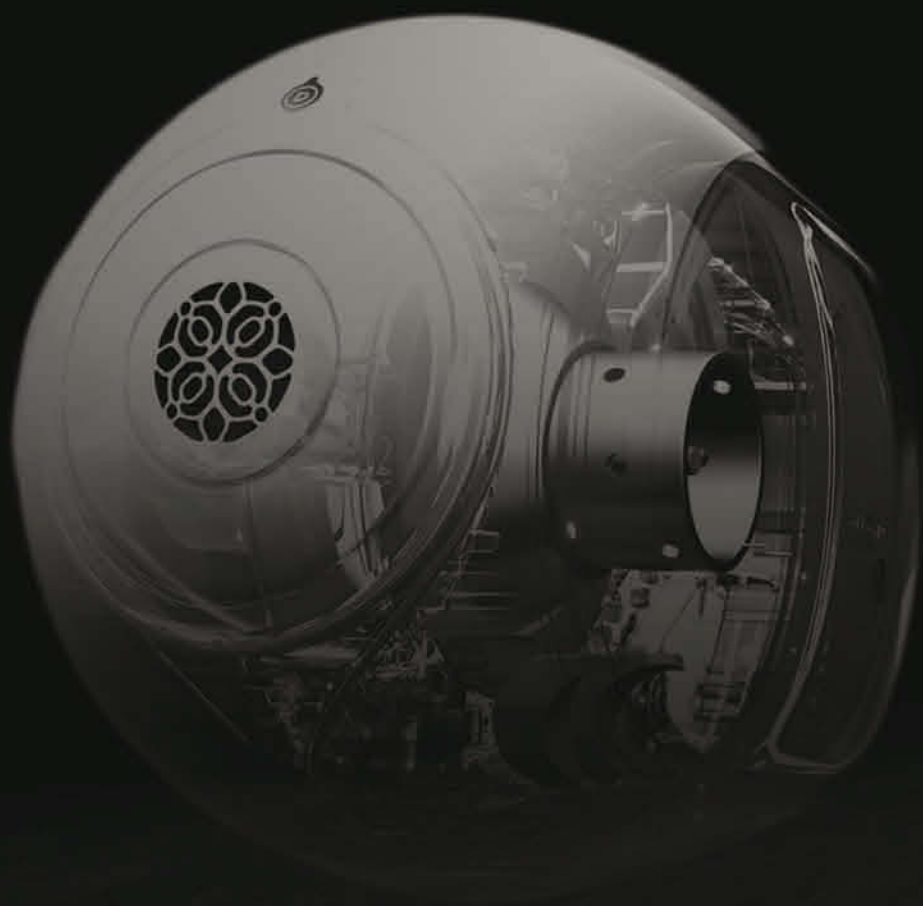
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# Choosing and using loudspeakers: the basics

by Alan Sircom



**T**he English have an affinity with standmount loudspeakers (especially two-way standmounts), as evidenced by the evergreen BBC-designed LS3/5a. This is understandable given the size of the typical English listening room, but with that affinity comes arrogance. We did not invent the standmount, and while we make a lot of very good standmounts, it doesn't give us unique right to call ourselves 'the best'. Other countries can lay equal claim to making some extremely good standmount designs, and over the years have made some truly world class designs and innovations.

In fact, the modern bookshelf loudspeaker derives principally from the work done by Edgar Vilchur (1917-2011) who in 1954 developed the acoustic suspension loudspeaker system. Acoustic suspension

relies on the air in an enclosed cabinet instead of a mechanical suspension found in older designs. At a stroke, Vilchur made loudspeakers that could deliver deep bass without large amounts of distortion, large drive units, and even larger heavy front baffles. Vilchur and his student Henry Kloss (1929-2002) founded Acoustic Research, and in designs like the AR-3 helped create domestically acceptable loudspeaker systems just in time for the birth of stereo. Most loudspeakers today still use some version of the acoustic suspension system.

Since that time, there have been significant developments in the materials used in the loudspeaker drive units, the components in the crossover network, and the choice of cabinet material. Sophisticated computer modelling designs optimum cabinet sizes, bracing, and port technology, while equally complex computer measurement techniques give the engineers an understanding of air flow inside and outside a loudspeaker, how a different cone surround effects the dynamics of a loudspeaker, and more. And these elements have created increasingly better loudspeaker designs, albeit still designs built on the pioneering work of the likes of Vilchur.

We have recently looked at the basic technology and requirements of a loudspeaker back in issue 123. Rather than go over the same ground again, let's look specifically at the practical concerns of installing a loudspeaker (in this case, but not exclusively, a standmount loudspeaker) in a room. ►



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*“While many companies provide a specific, dedicated stand for the loudspeaker, aftermarket stands often provide better performance.”*

► Naturally, the first consideration specific to a standmount loudspeaker is, er, a stand. While many companies provide a specific, dedicated stand for the loudspeaker, aftermarket stands often provide better performance. The three important aspects here are height, mass, and rigidity: in most cases (unless the loudspeaker manual says otherwise) the optimum height for a loudspeaker stand would make the acoustic centre of the tweeter of the loudspeaker fall roughly in line with your ears when seated. Some loudspeakers (for example, ProAc) perform best on a high-mass stand, while others (such as Epos) are best used with lightweight stands. Even rigidity has its supporters and detractors; companies such as Linn and Focal would have the loudspeakers completely immobile in the room, while brands like Raidho and Townshend are more concerned by energy transfer from stand to floor to speaker and that places rigidity as a relatively low priority.

Finding an appropriate amplifier match for a pair of loudspeakers is an important consideration, especially if you go beyond the comparatively safe option of a pair of reasonably easy to drive loudspeakers partnered with a relatively powerful solid-state amplifier. Some loudspeaker specifications do give an indication of how easy the loudspeaker is to drive; a loudspeaker with a rated minimum impedance of below two ohms, for example, is likely always going to need a hefty power amplifier to drive it, and will, in extreme cases, shorten the working life of the amplifier. Similarly, the low-frequency cut-off point in a loudspeaker's frequency response, coupled to its sensitivity and maximum sound pressure level, will give broad indications of the sort of room this system will work well in: a low frequency limit of 50Hz (for example) will perfectly suit a small room, but sound too light in most cases in far larger rooms. However, in both these cases, the best solution is to work with experts who can advise and demonstrate upstream electronics and optimum systems for a given room

Once a loudspeaker is at the appropriate height with the right equipment, it's worth considering the room it goes in. Room treatment is an important consideration in a dedicated listening room, but becomes hard to justify when the room is a shared family space. Nevertheless, a lot of loudspeaker woes can be resolved by subtle use of bass trapping in the corners of a room, absorption or diffusion behind the listener and (often) behind the loudspeakers and even first reflection treatment on the side walls and ceiling. If possible, it's best to use dedicated room treatment solutions than home-brew variations like books, cushions, and sofas, but pragmatic considerations often weigh heavy.

Last but not least, it's worth considering the installation itself. Most loudspeaker manuals include some kind of rudimentary installation diagram, usually some variant on an inverted isosceles triangle, with the listener at the apex and the loudspeakers at either base. Typically, in a rectangular room, try to sit on the centreline along the length of the room, with your chair around 1/3rd of the way from the rear wall. Then, position the loudspeakers at least 40cm from the nearest

walls, and that they are ideally apart. Once again, the manual, especially with regard to toe-in (the front of the speakers relative to listening position). There are other install that many swear by, from the room with the loudspeakers evenly 'toed in', through 'vowelling' to find an optimum position, to 17° geomancy, and more.

For any installation system you try, experiment with careful positioning; consider the basic placement 'roughed in' and fine-tune the speaker set-up, even if it's a centimetre or two movement. These can make a difference, on any loudspeaker. +



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# The Best of the Rest!

**S**tandmount loudspeakers are extremely popular at every price point, and tend not to be discontinued quickly. This means there are dozens of exceptionally good loudspeakers, which we have tested on the pages of *Hi-Fi+* and that more than deserve a mention.

One of the difficulties with any magazine is it survives on the latest products. While this might sound great for the computer world – where your PC is out of date by the time you get it home – audio works to a slower beat, and loudspeakers don't have to change every few months.

Here are just a few of the best standmount loudspeakers we've seen in the last few years, that are still available, and still more than worthy of consideration. All of these loudspeakers are from brands not featured in this issue and featured after our 100th issue. Even so, this only scratches the surface.

### **Audience ClairAudient The One (*Hi-Fi+* issue 104)**

This tiny loudspeaker must be the purest version of the bookshelf loudspeaker we've tested in a while, in that it's about the size of a book, can work well on a shelf, and only has one drive unit. The tiny One loudspeaker from Audience wowed us with its excellent imagery and ability to disappear (it's already pretty small!).

**Audience:** [www.audience-av.com](http://www.audience-av.com)

### **Eclipse TD-M1 (*Hi-Fi+* Issue 119)**

Eclipse' distinctive 'pod' speakers also use just one small yet full-range drive unit and in the case of the M1, includes active amplification and even a DAC. Considered as a desktop loudspeaker for computers, the tiny TD-M1 is actually more like a complete home audio nexus!

**Eclipse TD:** [www.eclipse-td.net](http://www.eclipse-td.net)







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► **ELAC BS 312 (*Hi-Fi+* issue 105)**

ELAC's unique combination of small metal cabinet, AMT tweeter, and 115mm AS-XR metal cone bass driver pays dividends in the small BS 312. Best used on its custom stand, this loudspeaker goes surprisingly loud and low, and it's one of the fastest sounding speakers you can get for the money.

ELAC GmbH: [www.elac.com](http://www.elac.com)

**Raidho D1 (*Hi-Fi+* Issue 105)**

Building on the popular Raidho C1.1, standmount, the D1 ups the ante – and the price – by using a bass diaphragm coated with one and a half carats of pure industrial diamond. This makes for a loudspeaker that pushes any resonant frequency of the bass unit way beyond hearing, and makes a loudspeaker that sounds truly remarkable.

Raidho Acoustics: [www.raidho.dk](http://www.raidho.dk)

**Revel Performa M105 (*Hi-Fi+* Issue 113)**

A two-way loudspeaker of technical brilliance and excellent value... what's not to like? This high-quality ported two-way from the Revel arm of the Harman group shows just how much performance (excuse the pun) can be had out of a reasonable-sized loudspeaker.

Revel: [www.revelspeakers.com](http://www.revelspeakers.com)

**Roksan Darius S1 (*Hi-Fi+* Issue 110)**

A sublime two-way loudspeaker with a ribbon tweeter, a long throw bass unit, lots of high-grade components, and two small rear ports. Like many top standmounts, the Darius S1 uses its stand as an integral part of the design. A fast, detailed, and dynamic loudspeaker that is so much more than just an ideal finishing touch for an all-Roksan system.

Roksan Audio Ltd: [www.roksan.co.uk](http://www.roksan.co.uk) ►



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Front, side and rear views of the top-of-the-range Classic, showing the rear passive mid-bass and bass drivers. The ribbon tweeter head unit swivels and moves to and fro' for precise phase and focus, as does the Vivace's – below. All Kawero! speakers feature rear drive units.



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- 'Chippendale' standard of fit and finish and an almost infinite choice of veneers and colours.

*Vivace has most of the performance of the Classic, at a lower price. Paul Messenger's view in hifi+ '... its magnificent dynamic range, fine timing and superior coherence actually provide rather more information about the recording processes than any other speaker I can readily recall' Also rated amongst 'Best of the best' by hifi+.*

Three key people, dedicated audio-philosophers, created these loudspeakers:

- **Rainer Weber**, one of the world's leading experts in acoustics and psycho-acoustics, how we hear sound,
- **Hans-Jürgen Kaiser** who runs the Kaiser hi-tech factory near Munich specialising in acoustic treatments, and
- **Steve Elford** of Vertex AQ with experience of complex aircraft avionics in the RAF – skills combining to produce three utterly different world-beating loudspeakers, each targeted to excel in its niche.

**What is the cabinet's role?** The ultra-dense wood/composite absorbs energy very efficiently, has no 'sound' of its own enabling soaring dynamics.

**What is the Vertex contribution?** Speakers vibrate, by design, and the Vertex crossover treatment helps to absorb both vibration and RFI.

**Why rear drive units?** Those drivers compensate for the 'step' in response caused by baffle cancellations, to ensure full-bodied natural sound.

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"Best sound at the show" we hear consistently from show visitors. The resolution, clarity and dynamics stem from our use of Vertex AQ cables, mains supplies and platforms to absorb vibration and RFI/EMI, laying a stable, untainted foundation for the system to work as it should.

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► **Russell K Red 100 (Hi-Fi+ Issue 119)**

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Russell K Ltd: [www.russellk.co.uk](http://www.russellk.co.uk)

**Spendor D1 (Hi-Fi+ Issue 126)**

Spendor has a long tradition in 'bookshelf' speaker design going right back to the LS3/5a. More recently, it's SA1 loudspeaker has been considered one of the best designs you can buy. So, imagine our surprise when Spendor replaced it with the D1, especially when we heard just how much better than its predecessor it was, too!

Spendor Audio Systems Ltd: [www.spendoraudio.com](http://www.spendoraudio.com)

**Triangle Esprit Comete Ez (Hi-Fi+ Issue 121)**

This French loudspeaker brand has built a strong reputation on solid technology and loudspeaker driver design, and you can hear that the moment you try the Esprit Comete Ez. With its fast and fun midrange, the horn tweeter, and the complete lack of overhang, this is one loudspeaker that combines party dynamics and subtlety in a very elegant package.

Triangle Electroacoustique: [www.triangle-fr.com](http://www.triangle-fr.com)

**Wilson Audio Duette Series 2 (Hi-Fi+ Issue 109)**

The Editor's current reference point, the Duette II is arguably *the* high-end loudspeaker for the small room, because it allows the listener to use loudspeakers within a few inches from a rear wall, and yet delivers all the imagery, power, bass, and dynamics one would expect from a Wilson Audio design.

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**Booplenth Turns the LP12 Upgrade Path Inside Out and Upside Down**

# Kiso Acoustic HB-X1 loudspeakers

by Alan Sircom

**S**ome years ago, we had a pair of the fascinating Kiso Acoustics HB-1 (on their original stands) in for review. That review never came about – there was some behind-the-scenes dispute over those stands – but we did get to play them at one of the last Manchester audio shows to very great effect. The new HB-X1 builds and extends on what the HB-1 did, and we jumped at a chance to finally put one through its paces.

Kiso Acoustics is a Japanese company, a side-project if you like from the cartridge makers (and one-time preamp experts) Lyra, in association with visionary loudspeaker designer Toru Hara. It is a two-way ported standmount loudspeaker of diminutive stature, as it is about the height of a BBC-designed LS3/5a, but narrower, and this plus the sloping back means significantly less cabinet volume. The size of the speaker limits the size of the drive units in the loudspeaker, with a 17mm tweeter in a horn made from ebony, and a 100mm mid/bass unit. That's 2/3"ds of an inch and just under four inches respectively! Despite these diminutive drivers, Kiso Acoustics claims a frequency response from 40Hz-30kHz.

Part of this extended (for so small a speaker) frequency response comes down to the cabinet. The cabinet itself is reminiscent of a guitar, and those with good audiophile memories might note this has been done before. Onkyo teamed up with Takamine to deliver the D-KT10 loudspeaker of 2007. This speaker shares the same designer, the same basic shape, and not much else. If you were to compare the HB-1 with HB-X1 from the Kiso stable, you'd find a very slightly larger base (7mm to be precise) and inside that base a crossover filled with high-grade Mundorf caps.

The 'HB' in the name is derived from the rōmanji Japanese word 'hibiki', which translates to 'resonance' ('Hibiki' is also the name of Suntory's extremely nice blended whisky, and I have to confess that – before it became punishingly expensive to drink in the West – on occasion, I have been pleasantly 'resonated' on the stuff). This idea of 'hibiki' is fundamental to the design of both Kiso models (and the Onkyo design), in that the cabinet is designed to be actively resonant, rather than 'dead'. The logic is that an acoustic musical instrument uses its resonant chamber to create its tonality, tonal colour, and (ultimately) volume. A perfect – and entirely apposite in this case – example of this is the sound-box of an acoustic

guitar: Yamaha makes a range of 'silent' classical guitars, which have the head, nut, neck, bridge and tuning pegs of a nylon-strung guitar, but with the upper and lower bouts of the sound-box replaced with an open frame and a piezo-electric pick-up. Unless you plug this guitar into an amplifier, it is almost completely silent.

Why is this guitar analogy apposite in the Kiso HB designs? Because the enclosure of the cabinet is not only designed along the same basic lines as the upper bout of an acoustic guitar, but also built by guitar luthiers. Lyra's side-project is also a side-project of Takamine's custom shop, and the results speak for themselves in the flesh. If you weren't lucky enough to see the HB-1 at our Manchester presentation, or have seen them demonstrated at another show, and want to know how refined the HB-X1 looks in real life, go to a prestige guitar shop, and ask the assistant to show you what they think is the most beautifully finished acoustic guitar they have irrespective of cost, and you should get an idea of what the Kiso is physically like. In short: it's extremely pretty, in proportion, finish, and detail; and when the light hits it in the right way it's almost painfully beautiful, in the way only a hand-crafted musical instrument can look.

The Kiso sits on eight little clear gel insulators, and ideally comes to rest on tall stands. This was the sticking point in the HB-1's failure to make it to review – Kiso makes its own 'Podium' stands, but the preferred option is the Vibex HB-X1 stands, built by the Spanish distributor, which comprise two carbon-fibre tube uprights with metallised polymer 'K-material' top and baseplates. This results in a stand that is light, rigid, extremely inert, and very expensive. You could almost say the stand does to the Kiso what a guitarist does to the sound of an acoustic guitar; adding a rigidity and support to the soundbox without constraint.

The guitar-like enclosure of the Kiso is not simply for looks. It's an intrinsic part of the design, and – unlike practically every loudspeaker you'll ever try – the cabinet is actively resonant. This means at some point you will place your fingertips on the cabinet, like Mr. Spock attempting a mind-meld, while the music is playing. The feedback you get from this tactile joining is fascinating, as you can feel the resonance of the music move across the cabinet, dancing beneath your fingertips. It's like you can feel the music being created, and not just hear it. Trying this ►





*“I put in a set of earplugs in an attempt to actually ‘feel’ the music under my fingers using the Kisos”*

▶ with friends and industry types alike elicits a similar response through out; embarrassment at fondling a loudspeaker, followed by puzzlement, then the realisation of what’s happening, followed by the broad smile. It happened every time.

As befits a reviewer doing somewhat loony things in search of more words, I put in a set of earplugs in an attempt to actually ‘feel’ the music under my fingers using the Kisos; I could, but my proprioceptive language skills in this respect are not well developed, so I couldn’t actually ‘hear’ the music through my fingers. However, it makes you appreciate just how profoundly deaf musicians (Beethoven and Evelyn Glennie spring to mind) can still compose and play. My admiration for such people only increases at the attempt, though. Continuing to channel Mr. Spock... fascinating!

The Kiso speakers naturally require good upstream equipment, but more significantly they need to be placed farther than usual apart, and at least 40cm from the rear and side walls. Curiously, they spring to life in rooms far larger than you might expect given the size. This is one of the very clever aspects of the Kiso; that on-paper 40Hz seems impossible given the size of the loudspeaker, but in the right room, you’ll think it’s understatement and suspect the speaker goes deeper.

Ultimately, of course, a small loudspeaker has limits on what it can do, and the Kiso HB-X1 is no exception. It doesn’t break the laws of physics then, but it waterboards those laws a little so they give up their inner secrets. That said, bass is deep and potent, not simply for a loudspeaker this small or for on-paper measurements of this kind, but simply deep and potent. The Kiso relies on the simple fact that most acoustic music doesn’t have a monumental amount of energy in the sub-40Hz region, and what the Kiso delivers is enough for most people. In listening to Mitsuko Uchida playing Beethoven’s Piano Sonata No 30 in E [Philips], you hear the beauty of the playing and the delightful tone of the piano, and you barely notice that the last octave or so of the piano is less potent than the rest. And that’s because Beethoven didn’t write a great deal of that sonata with heavy left-hand action. In fact, you begin to look at music not in terms of the bass that’s missing, but more in terms of just how much bass goes into most music, and the true answer is actually ‘not that much’. OK, if you listen to a lot of organ music, dubstep, or heavy opera, the HB-X1 is off the shopping list, but if your musical ▶



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► tastes view these deep bass explorations as a little ‘showy’, then the Kiso might just be ideal. So, while fast-paced bass transients like ‘Chameleon’ by Trentmøller [*The Last Resort*, Poker Flat] fare surprisingly well, they do so by not triggering those cavernous sounds. But, probably if you are going to be a Kiso owner, that will not matter one iota. You are past that.

I think it’s the dynamic range that is so captivating in the Kiso HB-X1: more so than the almost point-source imaging, which should be the main point of the speakers. Yes, the loudspeakers image beautifully, but a lot of loudspeakers image beautifully. What’s rarer is a loudspeaker that has the kind of effortless dynamics that are normally found with horns (or the real deal). This is not even a volume ‘thing’, because although the Kiso goes loud for a small box, it’s not a headbanger. Instead, play some classic jazz – ‘Love For Sale’ on *Somthin’ Else* by Cannonball Adderley [Blue Note] – and the dynamic freedom just gives you a sense of musicians at the top of their game riffing off one another, rather than a cool rendition of a well-worn jazz staple.

There’s one aspect of the Kiso sound that sets it apart from so much audio: it’s believable sounding. This transcends any breakdown of the music into its component parts and instead focuses on the music as an organic whole. But where other loudspeakers have some kind of coherence, the Kiso has more, and it really only can be called ‘believable’. This is an uncanny aspect of the loudspeakers, and it manifests in a peculiar – but oh so predictable – manner. The listener sits in front of the loudspeakers, liking what they hear, then turns away, and almost immediately performs a comedy double-take. A kind of ‘huh?’ moment as they hear the size, scale, and believability of the loudspeakers, only recently divorced from the physical size of the loudspeakers. I’ve seen people take four or five attempts to leave a room where the Kiso HB-1 or X1 is playing, each time turning away from the loudspeaker, only to turn back to listen to those real and believable sounds.

Once again, this believable sound tends to be heard with acoustic material rather than powerful rock or electronica – but there are a lot of speakers bigger and (on paper, at least) better than the HB-X1 in terms of frequency response and headroom, but in terms of sheer tone, of the ability to sit for long periods listening to these loudspeakers, and that abject sense of sublime musical communication from one instrument to another, the HB-X1 can’t be beat, no matter how big or how expensive the loudspeaker.

The Kiso HB-X1 is the point where reviews run out of road, and personal, individual listening becomes uppermost. The person who has never heard the Kiso will stumble at the price tag, no matter how purple the prose about how it

sounds. However, the person who has heard the Kiso will stumble at how a speaker the size of the HB-X1 does what it does. Both will probably swear about the price, but where the former will decry such a speaker on moral grounds, the one who has heard it will be swearing about the deep hole the Kiso will make in their bank account.

It’s hard to write about the HB-X1 without making the loudspeaker sound flawed. It’s expensive, it doesn’t plumb the bass depths, it only comes in the one finish, it won’t play at high output, and it breaks every rule in the loudspeaker cookbook. And yet, listening to the Kiso, it dawns on you that none of those things matter. This is the kind of loudspeaker that does one thing (the small speaker that doesn’t sound small) well, but it just happens to do that one better than every other loudspeaker on the planet, and the more you listen, the more you are drawn into how the Kiso plays music.

The Kiso Acoustics HB-X1 is always going to be a niche product. It’s a small speaker for a big room that sounds like a much bigger speaker, and many will just buy a bigger speaker instead. But not everyone: some want big speaker sound without big speakers, and are prepared to pay big speaker money for the best small speakers they can get. And, they are exactly the people who will be seduced by the utterly captivating, utterly believable sound. Through the Kiso speakers, *If You Can Believe Your Eyes and Ears* is more than just an album by The Mamas and the Papas! +

## TECHNICAL SPECIFICATIONS

**Type:** Two-way bass reflex loudspeaker

**Drive units:** 1× 17mm wood horn tweeter, carved from ebony, 100cm cone

**Rated impedance:** 8Ω

**Rated sensitivity:** 85dB/W/m

**Rated frequency range:** 40Hz–30kHz

**Crossover frequency:** 5kHz

**Dimensions (W×H×D):** 15×32×22cm

**Weight:** 5.2kg per speaker

**Price:** £14,795 per pair. Stands £1,795 per pair

**Manufactured by:** Kiso Acoustic Co. Ltd

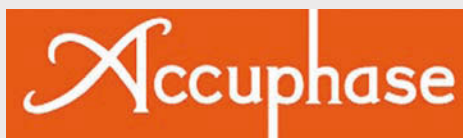
**URL:** [www.kisoacoustic.com](http://www.kisoacoustic.com)

**Manufactured by:** Symmetry

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# GamuT RS3 standmount loudspeakers

by Chris Martens



**G**amuT is a Danish firm that is famous both for its high performance audio electronics and loudspeakers, with the four-model RS-series range standing as the firm's flagship offerings. The RS range evolved from an earlier-generation of GamuT flagship models known as the S-series speakers, which first appeared in 2007. According to firm's R&D Manager Benno Baun Meldgaard, the intent in developing the RS range has been to preserve and even expand upon the technical strengths of the S-speakers while significantly improving their overall musicality. Meldgaard emphasises that all RS models share nearly identical voicing, so that the main differences between the RS3 standmount model tested here and its bigger siblings is slightly deeper low-frequency extension and the ability to develop higher sound pressure levels in larger rooms. Even so, GamuT stresses that the RS3 offers unusually deep bass extension for its size and "performs like a full range speaker for smaller to medium-sized rooms"—a bold claim that we will put to the test in this review.

GamuT's RS3 is a two-way standmount loudspeaker with a ported enclosure said to be "tuned for optimal impulse response." The enclosure features a swept-back, boat hull-like design with heavy internal bracing and a rear-firing aluminium port. The enclosure walls are fashioned from a laminate composed of "21 individual layers of wood of various thickness and type", while the cabinet, says GamuT, is "shaped for optimal damping using small amount(s) of damping material."

The speaker's driver array consists of a 38mm silk diaphragm, ring-radiator-type tweeter with a stainless steel phase plug and a Neodymium magnet assembly, plus a 178mm mid-bass driver fitted with a sliced, natural oil-impregnated paper diaphragm cone. Both units are sourced from Scan-Speak, but are custom configured to GamuT's specifications. The crossover network, in turn, is said to be a "phase and impulse linear" design, while the speaker presents a four-ohm load that is said to be amplifier friendly and to have low phase shift. Sensitivity is a relatively low 86.5dB/2.83V, meaning the speaker likes to be pushed by amplifiers that can deliver a fair amount of power into four-ohm loads.

Unlike many standmount loudspeakers, the RS3s arrive already mounted on their own integrated, and "acoustically optimised" stands, whose internal construction and external appearance mirrors that of the RS3 speakers. The stands are fitted with metal 'outriggers' and robust, oversized, adjustable stainless steel resonance control spikes, complete with a set of machined floor protection cups. The stands position the RS3s at exactly the right height and tilt-back angle for seated listeners to enjoy. Useful details abound, such as recessed speaker cable guides built into the back sides of the stands, or massively overbuilt speaker connection terminals—set up for bi-wiring—mounted on beefy terminal blocks fitted into the rear panels of the speakers. In lieu of fabric grilles, the speakers use sets of horizontal, elastic straps that are spaced 35mm apart and are suspended from vertical metal rods located near the edges of the front baffle. Overall, the RS3s achieve a modern, high-tech look coupled with an emphasis on old school woodworking and craftsmanship.

The core reference system for this review consisted of a PS Audio DirectStream DAC (reviewed in *Hi-Fi+* issue 125) used as both a DAC and preamplifier, plus a pair of Gamut M250i monoblock amplifiers. I fed both standard and high-res digital audio files (in PCM, DXD, and DSD formats) to the system via either a PS Audio PerfectWave Transport (reviewed in issue 125) or the excellent AURALiC ARIES wireless streaming bridge. Furutech Flux-series interconnect cables, speaker cables, and power cords were used throughout the system, while AudioQuest USB and I<sup>2</sup>S cables were used to connect the ARIES and PerfectWave Transport to the DirectStream DAC.

The RS3s sounded impressive from the outset. I was bowled over by the sheer width and depth of the sound stages the RS3s produced. My mid-sized





listening room (approximately 5.4m × 4.3) is configured so that speakers are typically positioned along the longer wall, meaning that speakers under review typically wind up being fairly widely spaced. Given this, I can achieve sound stages that stretch from the left to the right speaker, or perhaps a bit further. However, the RS3s confidently went much further than that to create stages that extended well beyond the boundaries of the left and right speakers—sometimes reaching outward to the sidewalls of the room, or beyond. Soundstage height and depth were equally impressive, with stages reaching upwards almost to the ceiling and reaching so far back that sounds often seemed to emanate from far behind the back walls of the room. While it has become commonplace for journalists to praise high-quality standmount speakers for producing ‘big sounds from small boxes’ the fact is that the RS3s stretched the performance well beyond what I previously had thought possible.

For an example of the RS3’s expansive sound staging in action, try putting on Jen Chapin’s rendition of the Stevie Wonder song ‘Big Brother’ from Chapin’s *ReVisions* [Chesky, 96/24]. The recording was made in the resonant interior of a church sanctuary and shows Chapin singing from centre stage, with saxophonist Chris Cheek performing to Chapin’s left and acoustic bassist Stephan Crump (who is also Chapin’s husband) performing to her right. As the song progresses, the RS3s explicitly show not only show both the performers’ positions on stage, but also how Chapin’s vocals, and Crump and Cheek’s instrumental contributions interact with the acoustics of the space. As a result, the RS3 not only play the music at hand, but also provide a realistic sense of place (or context) within which the music can unfold. ►



*“After spending some time with the GamuT speakers, other transducers began to seem a little sluggish and slow on the uptake.”*

to foster the believable illusion that sounds are emanating from real instruments and voices and not from loudspeakers. In this respect, vivid imaging is one of the RS3s' greatest strengths. This fact was pressed home to me as I played guitarist Marc Ribot's *Y Los Cubanos Postizos (The Prosthetic Cubans)* [Atlantic, HDCD] through the GamuTs. In general, this album conveys a warm, intimate, 'live from the studio' sound, which the RS3s exploited to the fullest extent possible. As a result, on the track 'Aurora En Pekín', the sound of Ribot's amplified hollow-body guitar exhibited a rare kind of vividness and solidity. These qualities were further enhanced by the RS3s' ability to capture small details such as plectrum noises or brief, split-second moments where Ribot's guitar amp temporarily became oversaturated by particularly vigorous notes. Consequently, the sound of Ribot's guitar seemed to exist independent of the GamuT speakers, taking up its place at centre stage in a manner so believable and compelling at times that I almost felt as if I could get up from my listening chair to reach out and touch the instrument (or its amplifier). By offering up precisely formed combinations of tonal colours, timbres, textures, and transient details the RS3 can produce palpable sonic images of startling realism.

▶ Later, toward the end of 'Big Brother', saxophonist Chris Cheeks creates a moment of sonic magic by playing a haunting, closing vamp as he gradually strolls to the left edge of the stage, then turns and walks to the back of the stage, and finally moves over toward the rear centre of the stage. As Cheeks moves, his horn acts as a subtle sonic 'spotlight' that illuminates the recording space and quite literally 'lights up the room'. As this is happening, the RS3s track Cheek's every movement with uncanny specificity, creating a three-dimensional illusion so powerful that one instinctively turns to watch Cheek walking around the stage. In short, the RS3s frequently create such moments where, if only for an instant, their compelling three-dimensionality trumps the mind's awareness that the presentation is 'only hi-fi'.

Next, I was impressed with the RS3's excellent imaging precision and focus, both of which enhance and expand upon the speakers' three-dimensionality. At the highest levels, the objective of loudspeaker imaging is

I was also captivated by the RS3's sheer dynamic speed and agility. In fact, after spending some time with the GamuT speakers, other transducers began to seem a little sluggish and slow on the uptake by comparison. Honestly, I have heard loudspeakers (e.g., certain full-range electrostats) that I thought offered excellent transient speed many times in the past, but I don't think I've heard many (if any) that do as good a job as the RS3s of delivering powerful, fast-rising, and yet very well-controlled bursts of dynamic energy on demand. What is more, the RS3 demonstrates this capability across the entire audio spectrum—from the lowest notes to the highest. In fact, so essential is dynamic agility to the RS3s' overall sound that I was forced to re-think the placement of acoustic treatments in my room to achieve better bass speed and dynamic articulation. Normally, I use sets of absorptive diffuser panels on the walls behind loudspeakers under review, but in the case of the RS3 those panels tended to slow the speaker down and soften its bass dynamics. To restore proper speed and impact, then, I had to move the panels from the back walls to the sidewalls of the room, which instantly unleashed even higher levels of performance from the GamuTs.

My point is that the RS3s consistently sound quick on their feet and full of dynamic energy and life, whether reproducing quicksilver treble percussion instruments such as the ethereal bells and gongs heard on Marilyn Mazur's *Elixir* [ECM], the high-powered midrange horn section outbursts heard on Clark Terry's *The Chicago Sessions* [Reference Recordings], or the fierce low-frequency transients of Marcus Miller's bass guitar solos on SMV's *Thunder* [Heads Up]. The agility and speed of the GamuT speakers help give them qualities of both clarity (because the beginnings and endings of notes are ▶



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► so sharply defined) and a sense of ‘you-are-there’ immediacy, proving there is real substance behind GamuT’s claim to have designed the speaker for correct phase and impulse response.

Finally, we come to GamuT’s assertion that the RS3 “performs like a full range speaker for smaller to medium-sized rooms.” Does it really? In a word, yes. To put the matter to the test, I put on some favourite classical, pop, and jazz bass tracks and came away impressed with the low-frequency depth, power, and control the RS3 had on offer. For example, the RS3s authoritatively captured all but the very lowest fundamentals while maintaining taut control and composure on the low organ pedal notes heard in both the ‘Pie Jesu’ section of Rutter’s *Requiem* [Reference Recordings, HDCD] or in the ‘Finale: Lento – Allegro moderato’ movement of Copland’s *Organ Symphony* [Michael Tilson Thomas, San Francisco System, SFS Media, 96/24]. Similarly, the speakers perfectly nailed the boisterous and slightly over-the-top vibe of the synth bass heard on Imogen Heap’s ‘Bad Body Double’ from *Ellipse* [RCA]. While the RS3 might not be the best speaker through which to explore the bottom half of music’s bottom octave, the fact is that it does handle true low bass with better extension, power, and finesse than it has any right to do, given its size.

## TECHNICAL SPECIFICATIONS

**Type:** Two-way, ported, standmount monitor with stands included as standard.

**Driver complement:** One 1.5-inch, silk diaphragm equipped ring-radiator-type tweeter with a stainless steel phase plug and Neodymium motor magnet; one 7-inch sliced-paper cone mid-bass driver with a diaphragm impregnated with natural oils. Both drivers are custom-specified units sourced from Scan-Speak with various proprietary GamuT modifications.

**Frequency response:** 34Hz – 60kHz

**Impedance:** 4 Ohms

**Sensitivity:** 86.5dB/2.83V

**Dimensions (H × W × D):** 1059 × 226 × 456mm

**Weight:** 46 kg (including stands)

**Finishes:** Ivory (white oiled ash), Onyx (black ash), Ruby (a deep red wood finish), and Maroon (a dark brown wood finish similar in appearance to wenge)

**Price:** £13,190/pair

**Manufacturer Information:** GamuT Audio, 6818 Årre, Denmark

**Tel:** (+45) 70 20 22 68

**URL:** [www.gamutaudio.com](http://www.gamutaudio.com)

**Distributor Information:** Sound Fowndations, 3A Vulcan House,

Calleva Park, Aldermaston, RG7 8PA Berkshire, United Kingdom

**Tel:** +44 (0) 118 9814238

**URL:** [www.soundfowndations.co.uk](http://www.soundfowndations.co.uk)

Are there any drawbacks to the RS3, apart from its price? Well, one I would point out is the fact that, despite its improved musicality vis-à-vis the original GamuT S-series speakers, the RS3 is still more of an accurate speaker than it is a forgiving one. With good, very good, or excellent recordings the RS3s usually do just fine, but if you put on mediocre-sounding, heavily compressed, or somewhat bright-sounding material the GamuTs will inform you in no uncertain terms that your selection is sonically inadequate. In short, the price of the RS3’s excellence is that it does not and cannot do anything but tell you how your records actually sound, whether for good or ill.

GamuT’s RS3 standmount monitors are one of the two finest loudspeakers I’ve ever had in my home. I’ve prized the time I’ve spent with them because, in very many ways, they’ve shown me a way forward toward higher levels of performance than I thought possible in my mid-sized listening room. For me, and especially for listeners with moderately sized rooms, the RS3s offer the fascinating prospect of standmount monitors that can do nearly everything that large, costly, and exotic floorstanders can do, but that are much better scaled for use in small-to-mid-size spaces, and that sell at more accessible prices than big, top-tier floorstanders typically command. This is a superb speaker and one I recommend without reservation. +



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**Robert Deutsch – Stereophile Feb 2015**



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# KEF Reference 1 loudspeakers

by Alan Sircom

**K**EF's Reference series is a stalwart and a fixture in our audio business. There has been a Reference model in the range since the Model 104 of 1973. Despite decades of leading-edge development, the Reference Series stays true to the original goals of that first model 42 years ago: using sophisticated analysis to define and control the loudspeaker environment, and building speakers with state-of-the-art production and quality control techniques. The means whereby these elements come together have changed radically over the decades, but the forces that created that Model 104 are the same that drive today's new Reference 1.

Let's unpack that first paragraph a little, because it's more than just a throwaway opening gambit. Using computer design today is not such a big thing when practically everyone in the developed world over about 2 and younger than about 92 has at least one computer to their name. But just 42 years ago, using computers in the development of loudspeakers was NASA-grade engineering – four years later when I was one of the first teenagers at my school to study 'computer science', we were submitting our programs on Teletype and even Hollerith cards to the only computer in the borough. This was the horse and buggy era of computing, and yet KEF was already modelling its loudspeakers on computers, and this dedication to the application of science to technology has run like a red thread through the company and its products, but most pointedly through the Reference models.

This dedication to science-based audio was what sparked the company's 'total system design' philosophy at the start of the 1980s, which saw the Model 103.2 incorporating drivers, cabinet, and crossover network as a complete project to be developed together, years ahead of its rivals. It was the impetus behind the Eureka/Archimedes project, which attempted to liberate the loudspeaker from the tyranny of the room it sits in (and which resulted in the Uni-Q drive unit, used in the Reference range in 1989's Model 105/3). It was this uncompromising objectivity that developed technologies such as conjugate load matching for designs like the Model 103/4 of 1992, and ultrasonic improvements to the Uni-Q in the Reference Model 201 *et al* of 2001. Two things come out of this potted history; the Reference models all hark back to the laboratory-maintained scientific and manufacturing reference

points, and that in more than 40 years of continuous reference points, KEF doesn't feel the need to change that often.

But Blade forced a root-and-branch change in KEF. The technologies developed in the making of Blade are filtering through the KEF line, and that has now touched Reference. The obvious part of this is the latest iteration of the Uni-Q mid-tweeter, which formed such a key element in Blade's single apparent source loudspeaker design and made the sophisticated LS50 loudspeaker an unalloyed international success. In the Reference 1, this 11<sup>th</sup>-generation Uni-Q model sports the distinctive tangerine wave-guide around the 25mm vented aluminium dome tweeter, which sits in the acoustic centre of the veined 125mm aluminium midrange cone. This Uni-Q design is joined by a single 165mm aluminium bass driver, set in the conventional position below the mid-tweeter unit. Bigger Reference floorstanding models add more bass units above and below the Uni-Q in a D'Appolito array, but all are essentially three-way loudspeaker designs. In a way, however, by eschewing the additional drivers, the Reference 1 represents the pure essence – the Platonic Form – of the current three-way Reference.

Describing the Reference loudspeaker simply in terms of drive units is like describing an aircraft by the number of engines; there's a lot more going on than just that basic rubric. The ported cabinet has been analysed in every way imaginable to create the right waveguide, the right surround, the right cabinet thickness, the right bracing, how the crossover interacts with the magnetic flux from the bass driver, how the tweeter itself vents from the Uni-Q system, how components influence crossover distortion, even how the 'Z-Flex' ribbed speaker surround behaves under virtually every condition you can think of. The resulting loudspeaker comes with two kinds of bungs for the rear port, with the less husky one pre-fitted, and the more chunky fella designed for taming really wayward bass in a room (and yes, KEF looked even deeper into room integration). Even the bi-wire terminals have been re-appraised, and now possess clever soft-feel platinum-plated wing-nuts to engage or disengage internal bi-wire links.

In the past, some of KEF's output has been the kind of equipment you like and respect rather than love. For a brief period around the turn of the century, it was one of those





technically brilliant companies that forgot it was making a product to which people would end up spending years listening. Then something changed for the better a few years ago, and KEF started talking about ‘voicing’ loudspeakers, and conducting ‘listening tests’ alongside the technical expertise. A lot of this comes down to two of the sharpest tools in the loudspeaker box – Mark Dodd (Head of Group Research for KEF’s parent company GP Acoustics) and Jack Oclee-Brown (Head of Acoustics at KEF).

In truth, I have to be on my toes when discussing the technology behind the Reference, because KEF is not a company that leaves anything hidden. In fact, wannabe loudspeaker designers are recommended to download KEF’s white paper on the Reference series from its website. This also means I can hand over some of the gnarly concepts of

the Reference design to KEF itself, should you wish to go deeper. Truth is, I only put “should you wish to go deeper” in there for good measure – go deeper. Normally a white paper is a marketing exercise with a few techy words thrown in to look clever, but KEF has basically condensed the sum total of loudspeaker engineering (albeit with a distinct KEF-fy flavour) into 50 pages of graphs, charts, FEA diagrams, and thermography-esque flow diagrams of how air cavitates in a port. I have a paper version of that white paper that I found a non-audiophile friend flicking through, who summed up the whole document perfectly: “Total. Freakin’. Nerdgasm!”

Normally, when it comes to loudspeakers, the process involves a relatively high degree of obsessive-compulsive behaviour. The speakers are roughed in, listened to, adjusted forward-back, left-right, listened again, fine-tuned, toed in, ►

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► more listening, until either you give up in frustration or you have positioned the speakers to the nearest Ångström. Sometimes, you have to follow a pre-arranged pattern, sometimes a spoken word test, sometimes it's a question of anchoring one speaker and tuning the other, and sometimes it's all about the mirrors and lasers and tape measures. The KEF Reference 1 were more or less 'plonked down' roughly in place, and the job was done. They got a tiny wee bit better sounding through some real care and attention (as in, stopping one of them from wobbling a bit, and making sure they were level), but in audiophile installation terms this is criminal neglect. And they sang beautifully. I moved them around, and they sang beautifully. I swapped out cables, flipping between generic

speaker wire from a hardware store that cost less than a couple of pints of beer to a full run of Nordost's new Odin 2 that cost more than my mortgage, and they sang beautifully. Of course, they sang ever sweeter the better the upstream equipment, and the more care put into installation, but they didn't put a foot wrong regardless. I tried practically everything in my power to not make them sing beautifully, but short of throwing the speakers in a lake or connecting them up to an aging clock radio, I'd struggle to find a way of making these loudspeakers sound in any way mediocre.

That's what all the science bit is about with KEF. Uni-Q came out of a project to understand how a loudspeaker interacts with a normal room that isn't acoustically perfect. ►



*“The highest praise I could confer on these loudspeakers is that they could easily be used in the studio for mastering. They are that accurate.”*

- Not an anechoic chamber, or a studio control room. The Reference 1 is the distillation of decades of trying to dial out the listening space, without having to call upon DSP or bass traps... and it works.

It works by creating a remarkable midrange, the kind of midrange you will struggle to find in a loudspeaker at any price. It manages to achieve the goals of sounding exceptionally honest, projecting well into the room, and just letting you listen deeper than usual into the recording. As an example of this, I played ‘Everyday’ from James Taylor’s 1985 disc *That’s Why I’m Here* [Columbia]. This was one of the staples of MP3 development cycle, and with its syrupy Yamaha DX7 synth-string sounds and OTT production values, it’s easy to turn hard or harsh in the midrange, despite Taylor’s soft, clear tones. Although the KEF speaker never once hides the overproduced 1980s recording techniques, it also clearly differentiates instruments within the mix, neither exaggerating nor underplaying any part of the mids. You really could replace the Reference 1 with practically any loudspeaker made and you’ll hear no better. The highest praise I could confer on these loudspeakers is that they could easily be used in the studio for mastering. They are that accurate.

The KEFs could also be used at a studio because they can take a real hammering, volume-wise. This is something often overlooked in audiophile magazines, but let’s be honest – when most of us get a new toy, we want to discover what it can do, and that means showing it off. Even to ourselves. In my case, that usually means a blast of ZZ Top’s ‘La Grange’ from *Tres Hombres* [London]. The Reference 1 played loud; a lot louder than I could take, in fact. If you want LOUDspeakers that are also capable of great subtlety, these join a select list, which typically comprises Focal, PMC, and Wilson models.

KEF has long been a master of good imaging, especially if you give the loudspeakers minimal toe-in. This is what happens when an engineering-led company makes a speaker with outstanding dispersion and off-axis properties. The soundstage is good-to-excellent even under less than perfect conditions, and exceptional when the system and room are working well with the Reference 1. Even the front-to-back complexity and dynamic range of Mahler’s Eighth Symphony [Solti, Decca] is portrayed superbly here.

And bass is well covered through the Reference 1. OK, a bigger room or demands for more bass are better met by

bigger References, but in terms of delivering a good deep bottom end, these KEFs are the first standmounts that gave my resident Wilson Duette II a run for the money. Ultimately, the Wilsons have the edge when it comes to bass energy and effortless dynamic range, and it takes moments to hear why the bigger, more expensive loudspeaker justifies its place in the audio firmament. But let’s not make that undermine precisely what the KEF offers for a fraction of the price.

There will be people who choose another tonal palette, who demand a bigger, smaller, cheaper, more expensive, or simply more fiddly loudspeaker to justify their place in the audiophile diaspora. There will be people who don’t like the piano black or wood cabinet with contrasting brushed front baffle, or the solid boxy shape. These (and more) are reasons you’d buy or prefer another loudspeaker: understandable, justifiable reasons. But that shouldn’t preclude understanding what the KEF Reference 1 is trying (and mostly succeeding) to do. Although I get why people might like another speaker, I simply can’t see how someone could dislike this one. It’s astonishingly good. If these were any more highly recommended, they’d be locking me up in a rubber room! +

## TECHNICAL SPECIFICATIONS

**Design:** Three-way Bass Reflex

**Drive Units** Uni-Q driver array (HF: 25mm vented aluminium dome, MF: 125mm aluminium cone), 1× 165mm aluminium bass unit

**Crossover frequency:** 350Hz, 2.8kHz

**Amplifier requirements :** 50–200W

**Impedance:** 8 Ohm (min. 3.2 Ohm)

**Finishes:** Piano Black, Satin American Walnut, Gloss Rosewood

**Dimensions (H×W× D):** 44 × 20.5 × 43cm (with grille and terminal)

**Weight:** 18.2kg

**Price:** £4,500/pr (stands £1,000/pr)

**Manufactured by:** KEF

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Hifi Critic March 2015



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# Sonus faber Chameleon B loudspeakers

by Alan Sircom

**L**oudspeakers are great, but sometimes they don't do 'sexy'. There are still a lot of rectangular wooden 'monkey coffins' out there, virtually unchanged in basic design for more than two generations. Fortunately, there's also Sonus faber.

The Chameleon is Sonus faber's new entry-level range, effectively replacing the diminutive Toy models. The range comprises the Chameleon T ('Tower' floorstanders), the Chameleon C (for 'Centre'), and the bookshelf Chameleon B, tested here. The B is a ported two-way design, with a 29mm ferrofluid-damped fabric dome tweeter, and a 150mm polypropylene cone bass unit. There are broad similarities in design between the Chameleon and its predecessor; like the Toy, the Chameleon has a trapezoid side aspect, which gives the front baffle and back panel a distinct slope. The sloping front and back help break up internal standing waves, and also gives the loudspeaker a small degree of time alignment. Both the Toy and the Chameleon also feature a leather covered wooden cabinet. But the similarities end there.

The Toy, so very indicative of the new look of Sonus faber a few years ago, looks positively old-fashioned next to the Chameleon. The older speaker's fixed wood or leather side-cheeks have given away to solid, interchangeable, colourful, and glossy side panels — six in total at the moment, with more said to follow. You get one set with the loudspeakers when you buy them, and can buy more at will, whether you want to change your mood or décor. I imagine most will initially opt for the black, white, or red options, but I can see people also getting more ambitious after a while and opting for orange or 'metal blu', or even some of the future options, like turquoise or vivid yellow. Theoretically, if you have enough sets of panels, you could create a palette of colours, with different colour panels on each side of each loudspeaker (although that could get expensive). Changing these side panels is quick and easy, as you can easily swap over a set in a couple of minutes. What's more, the large push locators don't rattle even when the speaker is played loud. The side panels have

a small recess cut into one side to allow the "Sonus faber Italy" logos to show. And, because the side panels can fit either side, Sonus faber has included this logo to the front and rear of the sides of the loudspeaker, so there will always be a logo staring back at you, regardless of how you insert these panels.

I guess we should not be taken aback by this small, but significant, step change in product design, because Sonus faber has long relished its Italian style, creating some of the most elegant loudspeakers in the business. And, in great fairness, the idea of interchangeable colour panels is not ►





▶ exactly a new one; it's not even a new idea in loudspeaker design. But Sonus faber is the first to take the concept beyond the lower ends of the audio world. These are more than interchangeable cheap plastic colour panels on a cheap plastic soundbar: the Chameleon is a credible loudspeaker in its own right, one that affords the listener considerable input in the ultimate design.

A clever touch here is the vent itself. A down-firing port (complete with permanently fixed foam bung) would normally be a problem with a standmount design, but Sonus faber has created a combination plinth and front-firing vent for the port that manages to look good, provide a mass-loaded base for the loudspeaker, and make the vent less room dependent. It's one of those neat and simple solutions that constitute one of the distinctive features of the Chameleon B.

However, the one aspect of the Chameleon B's design I'm not convinced by is the reintroduction of bi-wire terminals that doesn't, I believe, significantly benefit a loudspeaker of this kind, even bi-amped (at least, it didn't for a Roksan

with integrated and power amp combo); a good, single wire terminal block should be better. This might be a trifle, but we all know what Michelangelo said about trifles: they make perfection.

When it comes to the sound quality of the Chameleon B, the loudspeaker also combines the modern and the classic presentations of Sonus faber in one, integrating elements of the Venere with those of the Minima standmounts. Consequently, the Chameleon is lyrical and beguiling like the Minima, but detailed and fast-paced like the Venere. This is a very good and very 'now' balance. It lends itself to contemporary classic tracks like 'Royals' by Lorde [*Pure Heroine*, Universal], giving the music a combination of room-filling vibrancy and soaring trebles.

It's very clear, very quickly, that you are in the presence of good quality audiophile fare when you sit between the Chameleon B's. The soundstaging in particular is open and expressive, with excellent width and depth, and even some height. The one thing small standmount speakers like the Sonus fabers do exceptionally well, is they act like an effective point source. Play 'Mi Buenos Aires Querido' from the album of the same name by Daniel Barenboim, Rodolfo Mederos, and Héctor Console [Teldec], and you get the sense of a classically inspired Tango trio physically occupying your own room. Coupled with an overarching sense of refinement, and you have the sort of insightful and deeply enjoyable presentation you get from the best high-end audio. But with one reservation: bass.

The 'B' in 'Chameleon B' might stand for 'bookshelf', but it doesn't stand for 'bass'. The Sonus faber loudspeaker tries well to deliver good, taut bass, which is a lot better than faking it with boomy, woofly noises at around 80Hz, but while this honesty means you can follow a bass line, it doesn't mean you can follow it very far. There is a gentle roll-off that kicks in at the upper bass, and by the time you get to the far left hand on a piano, the pedals on an organ, or the deepest, flubbiest bass lines from a dub album, those notes are present in homeopathic quantities. ▶



*"It's very clear, very quickly, that you are in the presence of good quality audiophile fare."*

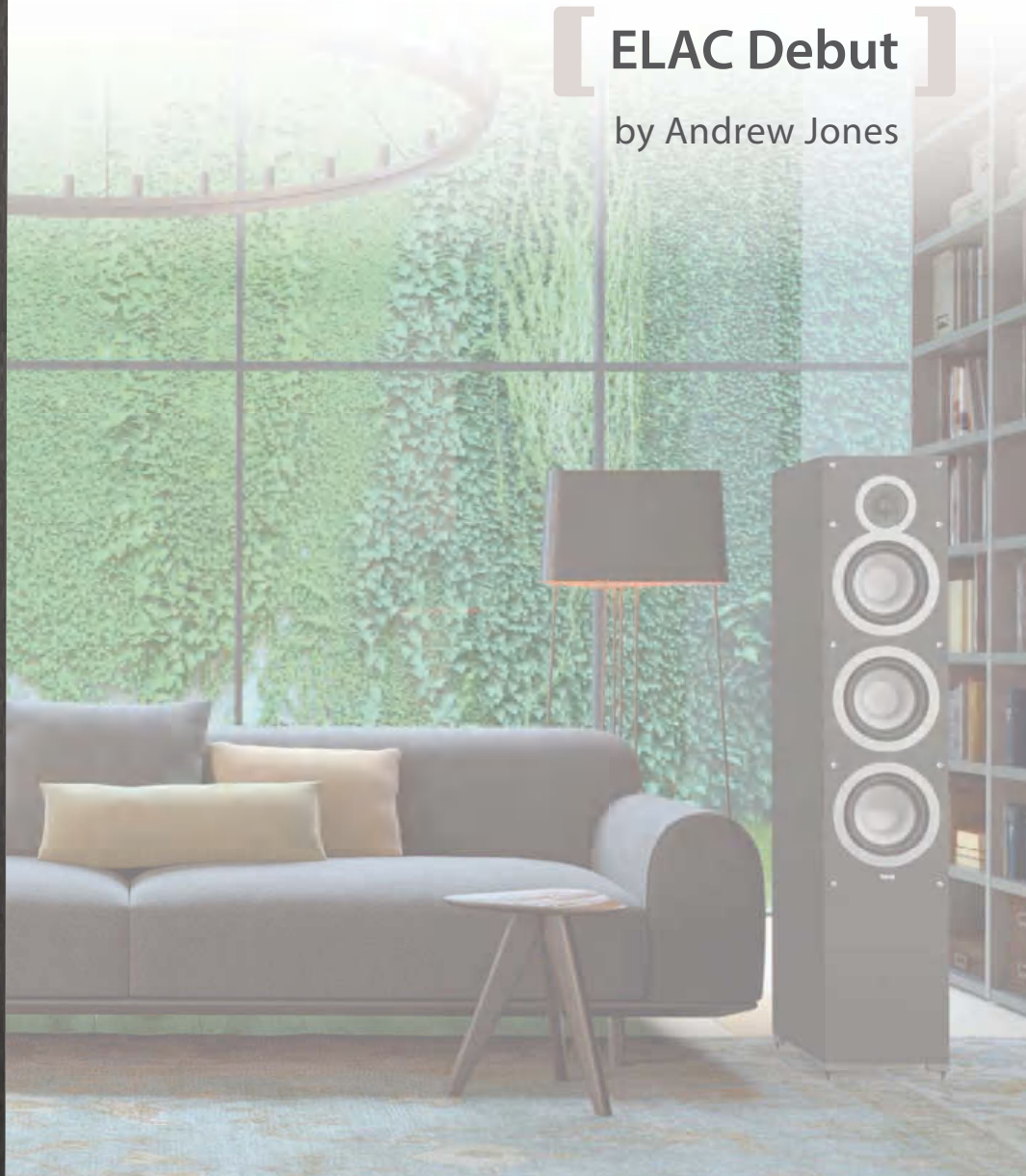


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by Andrew Jones



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► I actually prefer this to a loudspeaker that goes more for the ‘smoke and mirrors’ effect; the Chameleon B’s last few octaves are more akin to a LS3/5a design. Nevertheless, if your musical tastes demand full-on bass depth and solidity, look elsewhere.

The Chameleon B occupies ground held by no company before, and its potential owners will not be swayed by ‘non-design’ designs. Such design-led music lovers have often been fobbed off with poor sounding – but cool looking – loudspeakers. But here we get that rare thing: a loudspeaker that looks good, but which also sounds good enough to satisfy demanding listeners. Although there are loudspeakers that will prove more satisfying to those wanting deeper bass or a more taut or a more rhythmically integrated sound, I suspect that is missing the point entirely, because the Chameleon B is an exercise in reducing compromise across the board. Those who only care about how a loudspeaker sounds, and not

how it looks, are never going to ‘get’ a loudspeaker like the Chameleon B, and will tend to dismiss a loudspeaker that has aesthetically pleasing component out of hand. But this is not mirrored in those wanting a more design-led loudspeaker. If many are as unwilling to sacrifice sound quality as they are aesthetic values, the Sonus faber Chameleon B is their next bookshelf loudspeaker.

Think of the Sonus faber Chameleon B as a ‘best of both worlds’ design. It combines old (wood and leather) and new (ABS and state of the art drivers) design, with performance. It is every bit a 2015 loudspeaker in looks and sound, but one that doesn’t shake off its heritage in the process. Our little audio world is hide-bound by those who forget a loudspeaker in a living room has to look good as well as sound good; for those that remember the importance of both, this important little loudspeaker comes highly recommended. +

## TECHNICAL SPECIFICATIONS

**Type:** Two-way vented box standmount loudspeaker

**Driver compliment:** 29 mm high definition precoated fabric dome tweeter with ne ferrofluid. 1 x 150 mm free compression basket woofer with polypropylene cone  
Both custom Sonus faber designs

**Frequency Response:** 50Hz–25kHz

**Crossover Point:** 2.5kHz

**Sensitivity:** 87dB (2.831V/1M)

**Nominal impedance:** 4Ω

**Suggested Amplifier power output:**  
30–150W (without clipping)

**Dimensions (H×W×D):** 32 × 19 × 28cm

**Optional stand (H×W×D):** 72 × 31 × 37cm

**Optional dedicated stand (H×W×D):**  
725 × 306 × 370 mm

**Weight (per loudspeaker):** 6.7kg

**Price:** £700

**Manufactured by:** Sonus faber

**URL:** [www.sonusfaber.com](http://www.sonusfaber.com)

**Distributed in the UK by:** Absolute Sounds

**URL:** [www.absolutesounds.com](http://www.absolutesounds.com)

**Tel:** +44(0)208 971 3909





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### Competition Question

What type of driver does the T20 use?

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- B. Balanced armature driver
- C. Treble alternating driver

To answer, please visit RHA's dedicated competition page at [www.rha.co.uk/competitions](http://www.rha.co.uk/competitions). Alternatively, send your answer on a postcard (including your name, address, and contact details) to "RHA T20 Competition, RHA Audio, Unit 3, 69 Haugh Road, Glasgow, G3 8TX". The competition closes on November, 5th 2015.

### Competition Rules

**The competition will run from September, 3 2015 until November, 5 2015.** The competition is open to everyone, but multiple, automated or bulk entries will be disqualified. The winner will be chosen at random from all valid entries, will be contacted via email (where possible) and their name will be published in the magazine. The Editor's decision is final and no correspondence will be entered into. Absolute Multimedia (UK) Ltd. is compliant with the Data Protection Act and UK laws apply. Our policy is such that we will not pass on your details to any third party without your prior consent.



# Fostex PX5-HS loudspeakers

by Jason Kennedy

**F**ostex is one of those brands that we've all heard of but rarely see. This is primarily because despite having been around for quite a while (over 60 years in fact) it is best known outside of Japan as a 'pro' brand. In its home market, Fostex has a wide range of passive loudspeakers for domestic use: the company started out as a drive unit manufacturer, so it is able to develop its own ideas in this field, something that applies to the PX5-HS.

This two-way bookshelf is an active speaker, meaning that it has built-in amplification with a crossover that comes before the amps. This is what gives active speakers their advantage, especially since by connecting a dedicated power amp to each drive unit you significantly improve its ability to control that driver. Active is the standard approach in pro audio where Fostex has a strong foothold, and where the need for controlled power is apparently higher even if its quality may not always be to the same standard we expect in the home.

The PX5-HS combines a 132mm aramid fibre based mid/bass driver with a laminated urethane film, and a red polyester 25mm dome tweeter. There are twin reflex ports firing forward, a metal back panel with a two-in-one input for XLR and 1/4" jack, plus RCA phono connectors, and a rotary controller that can be used to adjust volume and tonal balance. Switch either function on and you get green lights to aid set up. When these details are combined with the contoured front baffle, the whole thing has clear pro audio overtones, and Fostex has a very similar pro model called simply PX5 that is rather





*“These changes have resulted in an extra 20kHz of high frequency extension.”*

- ▶ less expensive. The HS version has had its amplifier tuned, the rear panel is designed for better sound, and the controls have been made more intuitive. These changes have resulted in an extra 20kHz of high frequency extension and lower distortion figures.

Under the rear panel there are amplifiers for each driver as well as a crossover of presumably DSP variety; the amps are Class D types and specced to deliver up to 35 Watts to the main driver and 18 Watts to the tweeter. What seems to be missing is an easy means for users to connect their computers or portable devices; at this end of the market, the most likely customer would appear to be the desktop music lover who wants a compact yet capable speaker

without the extra hardware of a DAC/preamp in between. But, I guess the keen computer audiophile will have something like that already.

When powered up, the PX5-HS illuminates a Fostex logo on the front that remains dark on the back unless you switch in the volume or tone controls for adjustment. Finding the right volume level depends entirely on the connected source, I started by using balanced cables to hook them up to a Music First Baby Reference V2 passive controller and had to turn onboard volume to max. But even then dynamics were limited and the bass lacked control, so they clearly need active drive of some sort. To achieve this I bypassed the Music First and plugged the XLRs directly into a Resolution Audio Cantata DAC/streamer with volume control. This proved rather more successful, and the volume on the speakers had to be curtailed to a point where I could use most of the output on the Cantata. The illumination on the Fostex volume controls makes it easy to set both speakers to the same level, but you wouldn't want to use them as your main level control.

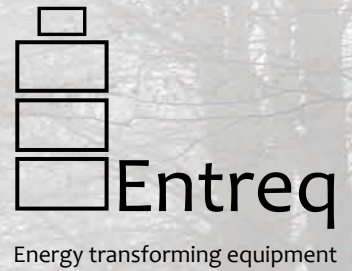
Now the bass had some power and depth. The drumming on Patricia Barber's 'Company' [*Modern Cool*, Premonition] had real punch, and the quality of the playing overall and the exact nature of Barber's urbane lyrics became apparent. I also rather enjoyed an Infected Mushroom track called 'Avratz' [*Converting Vegetarians*, Yo-Yo], a synth based electronica track with excellent dynamics, bandwidth, and full-scale imaging. The Fostex made a good stab with the first two, but struggled with the track's full-scale imaging – small speakers are not necessarily limited in this respect, but neither is it a given it seems. ▶

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## TECHNICAL SPECIFICATIONS

**Type:** Active 2-way, two-driver stand-mount monitor with front-ported bass reflex enclosure

**Driver complement:** One 25mm soft dome tweeter, one 132mm aramid fibre mid-bass driver

**Rated power:** Mid-bass 35 Watts, treble 18 Watts

**Frequency response:** 50Hz – 50kHz

**Crossover frequency:** 2.5kHz

**Input impedance:** XLR 20kOhms, RCA 10kOhm or more, 1/4inch jack 10kOhm or more

**Dimensions (HxWxD):** 280 x 180 x 210mm

**Weight:** 5kg/each

**Finishes:** High grade wood-grain

**Price:** £649

**Manufacturer:** Fostex International  
**URL:** [www.fostexinternational.com](http://www.fostexinternational.com)

**Distributor:** SCV Distribution  
**Tel:** +44 (0)3301 222500  
**URL:** [www.scvdistribution.co.uk](http://www.scvdistribution.co.uk)

► A more purist recording, Doug MacLeod's *Exactly Like This* [Reference Recordings] with its acoustic instruments and live sound, reveals that dynamics could be stronger. This is a great recording with very little limiting, but you don't get its full range here. You do appreciate the band's cohesiveness, however, and the fact that MacLeod is a natural bluesman. The strengths of the PX5-HS lie in its control of the bass, which is better extended than a passive of similar size and remains tight and tuneful under fire; even heavy bass work outs could not phase it. But good bass is also a lot of fun: playing Yello main man Boris Blank's *[Electrified]* (Electrified, Polydor), also electronica, you can feel the kick of the bass 'drum' and luxuriate in its power. The low end remains clean so that the voice above it is not smeared or masked in any way.

What is more challenging is full scale orchestral work where the lower strings are fine, but where the higher ones lack finesse. Combined with the limited dynamics, this means that pieces like Beethoven's 7th don't have the power and glory that they deserve. Piano pieces are more successful thanks to the speaker's reasonable timing skills, and chamber works retain their charm if not the full dynamic envelope.

Out of interest I contrasted the PX5-HS with a Rega Brio-R (£548) amplifier and Q-Acoustics 2010i (£120) speakers, the latter are smaller than the Fostex, but the sound this pair produced was notably more relaxed and expansive. It didn't have the extension and power in the bass, but it did produce a much more open sound. In an effort to get more from the Fostex I used an ATC CA2 preamplifier and this did prove beneficial; it cleaned up the treble to a useful degree, and although it didn't extend the bass any further, it seemed to add gravitas to it. Since the preamplifier made the PX5-HS a more enjoyable and rounded speaker, it reveals quite clearly the benefits of partnering electronics to drive long interconnects. I got quite distracted by a fairly dense album, Taylor McFerrin's *Early Riser* [Brainfeeder], which combines electronics and keyboards to great effect. As this is the third electronica album to make a positive impression with this speaker, one has to wonder if there is a connection: could

this type of monitor be what is used by the producers of such music?

If you are looking for a compact solution to use with a computer or in a second room, this Fostex has a lot going for it. The amplifiers aren't the most powerful around, but this is a low price for an active speaker from an established brand; something has to give. The Fostex is a critically revealing speaker in terms of source quality, which means you will need a decent DAC or preamplifier to get a sweet result. The PX5-HS sounds like it would work with one of the slew of DAC/preamp/headphone amps that are so popular right now, so long as they have a sweet top end and some driving power. And equally important, the Fostex looks good, the combination of pro style baffle with veneered sides and rear is undoubtedly cool. +



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AC/HFP/85

# Kaiser Kawero! Classic

by Paul Messenger

**T**he third Kaiser Kawero! model that this reviewer has encountered, this Classic is the top – and I believe the original – model in Kaiser Acoustics' three-strong Kawero! range. It has similar overall dimensions to the Vivace I examined back in 2011, but its drivers look rather larger, and it weighs an impressive 17 per cent more.

Kaiser's UK distribution is handled by Bath dealer, The Right Note, which also happens to be the leading UK dealer of Vertex AQ's whose technologies Kaiser loudspeakers use extensively. Pricing is complicated by a wealth of options, some of which were already fitted to our review sample. The 'base UK price' is an already hefty £40,784 (inc VAT), while the upgrade options include special veneers (£1,766), a carbon fibre front baffle (£1,545), piano gloss finish (£7,729), and

Kawero! special wiring (£5,778). With select upgrades, our samples therefore cost £50,279. Moreover, there is a special 'Brilliant Edition' version, which has an external crossover that features similar network components, but incorporates extensive Vertex AQ anti-vibration and anti-RFI treatments.

The standard veneers include maple, birch, American and European cherry, American and European walnut, sycamore, and wild service tree. Our review samples had a piano gloss finish on a 'special' veneer, a group which includes: mahogany crotch, macassar-ebony, makore pommele, myrtle, walnut, yew, maple and madron burls, santos palisander, curly birch, tinea, ziricote, and zebrano. In addition to being beautifully veneered and finished, the cabinetwork for the Kaiser Kawero! has acoustic advantages in that it uses panels that will tend to 'defocus' the frequencies of internal standing waves.



Whereas the Vivace had a rather bass-heavy balance in my room, the smaller Chiara stand-mount with its integral stand proved a rather better overall match in 2013. Happily, this Classic seems closer to the latter than the former. Although its bass is unquestionably strong, experience has shown that some bass excess is entirely acceptable providing it's clean, which it certainly is here.

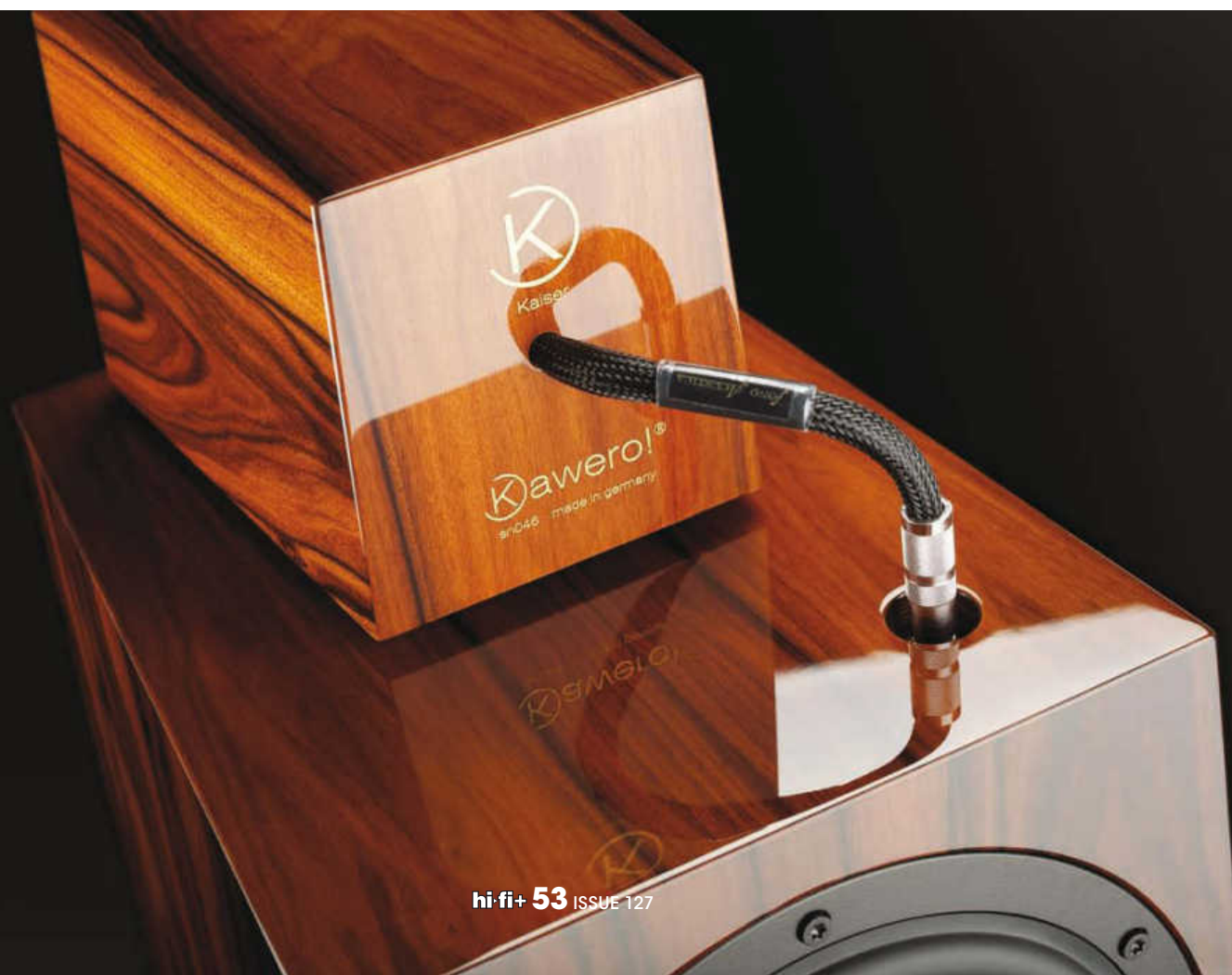
Kaiser itself is a family business of some size situated near Untergriesbach in the extreme south east corner of Germany, which specialises in all manner of advanced acoustics and woodworking. However, the Kawero! speaker designs have been created by Kaiser's acoustics expert Rainer Weber, who is actually based in the city of Regensburg, some 150km north of Munich, where he has a specially constructed high class listening facility. Incidentally, the name Kawero! is apparently an amalgam of the first two letters of the names of three guys who were responsible for developing the original design (the 'we' in the middle being Weber himself, of course).

The Classic might have quite modest dimensions, but it does feel inordinately heavy. In fact, the speaker alone weighs a considerably 99kg, to which was added the extra 35kg or

so of flight case was used to transport our review samples direct from Germany. Given that total weight, it came as no great surprise to see that its two wheels had left marks on the parquet flooring of my hall after we'd unpacked the beasts! The reason for the considerable mass is that this enclosure (and its extra internal stiffening) is made from something called 'tankwood' – the German word is 'panzerholz' – which is a wood-based laminated material that has been compressed under high temperature and pressure, and filled with resin, so that it retains a fundamentally fibrous nature, but adds considerable density by excluding air and moisture.

Panzerholz is only available from one or two sources in Germany, and is reckoned to match the stiffness of aluminium, with much improved natural internal damping. It sinks rather than floats in water, and is used to make anything from moulds to bullet-proof limousines. I know of no other loudspeaker that uses this material, one reason certainly being the difficulty (and cost) of machining something that is so dense that it rapidly wears out metal tools.

Each unit arrived equipped with and sitting on three Stillpoints Ultra SS feet; unfortunately part of one of these was ►





*“The components that make up the Kaiser Kawero! modus operandi are deceptively complex.”*

- ▶ missing, so alternative Stillpoints Ultra Bases (also supplied) were temporarily fitted instead. After a few days the postman brought the missing bit and the Ultra SSs replaced the Ultra Bases (not without some difficulty!).

The components that make up the Kaiser Kawero! *modus operandi* are deceptively complex. The main enclosure houses what appears to be three cone-type drive units. However, only one (active) bass/mid drive unit is mounted on the front panel, while the upper one of the rear is actually a passive auxiliary bass radiator (ABR), which is acoustically coupled to that bass/mid driver and effectively reflex loads it. The bass-only driver is also located on the rear, and is loaded by a port concealed within the base, alongside the bulk of the enclosure.

A tweeter sits in its own little enclosure mechanically detached from the main enclosure, allowing for some fore’n’aft movement to time-align the tweeter with respect to the main unit according to the favoured listening distance. This little head unit houses a RAAL ribbon tweeter – a top quality device made in Serbia – and connects up to the main unit using a short integral RCA/phono-terminated cable.

The bass radiation pattern is complicated by the fact that the bass-only driver – a 250mm sourced from Danish operation AudioTechnology – operates up to (and beyond) a first-order roll-off at a nominal 900Hz. This considerably overlaps with the bass/mid driver which rolls in via a fifth order high pass filter operating at 60Hz (the fourth-order acoustic ABR, plus first-order electrical). This means that the bass end distribution patterns will change with frequency – it’s a monopole below 60Hz, a bipole radiator initially above 60Hz, gradually converting

into a dipole on the way up to around 300Hz. Some flexibility is also allegedly available by reversing the polarity of the bass drivers, which will affect both the distribution and the in-room measured bass response – I say allegedly, as the connecting cables were too short to allow this to be tried in practice.

The 250mm bass driver has a very rigid Rohacell sandwich cone (embedding the Rohacell foam within carbon fibre paper), driven by an overhung 76mm voice coil. It has a  $\pm 9\text{mm}$  linear displacement (with plenty in hand beyond the linear region), and a hybrid voice-coil former that uses Kapton with no eddy currents for the first  $\pm 3\text{mm}$ , and aluminium thereafter. The magnetic field is extraordinarily linear, ensuring very low nonlinear harmonic and intermodulation distortions. Essentially this is controlled by its electrical parameters, the free air resonance is at 19Hz, and a special SteinMusic Maestro violin lacquer is applied to the cones.

The front-mounted bass/mid driver also comes from AudioTechnology, and is a customised variation on its 180mm C-Quence 18 model theme. It has a 120mm diameter polymer cone and a 50mm underhung voice coil on an aluminum former that has been specifically engineered to avoid excessive stiffness. It’s fed via a 5th-order highpass filter (comprising of a 4th-order passive radiator and 1st-order electrical), and operates from 60Hz up to 5.5kHz, whereupon a special elliptical filter (1st order and then infinity slope) takes care of the output. This front-mounted bass/mid unit is loaded by a 200mm AudioTechnology passive radiator on the rear, which uses a similar cone to the bass driver.

The RAAL 70-20XR ribbon tweeter sandwiches a small amount of damping oil between two layers of aluminium foil. The ribbon is fed from an amorphous core transformer, made in such a way that no attenuating resistor is necessary. The transformer primary uses Echole silver-gold-palladium wire, and the unit operates from 5.5kHz to 60kHz via a 3rd-order high pass filter. The crossover network uses a mixture of high quality Mundorf and Duelund inductors and capacitors.

I put the Classic through my usual in-room, far-field, averaged measurement regime, and found that although this speaker doesn’t aim for the flattest response, it remained within the bounds of acceptability, showing good ▶





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- basic extension down to below 20Hz, and some mid-bass emphasis at 40-100Hz. Output is a bit light in the upper bass (130-500Hz), then is rather strong in the main midband 500Hz-2kHz, but is smooth and even thereafter.

The Classic certainly more than met the maker's specification for 92dB sensitivity. However, the impedance drops to around three ohms at 90Hz, so rather more than an extra Watt will have been responsible for creating that sensitivity figure.

Even with a tonal balance that is deliberately pointed away from a ruler-flat frequency response on what seem almost ideological grounds, there's absolutely no avoiding the fact that Kaiser's Kawero! Classic delivers an exceptionally fine overall sound. 'Smitten' was the word that first came to mind when listening to them, and the word stood its ground for the three weeks I was able to keep hold of them.

Indeed, while we were still setting up the speakers, and The Right Note's Jeremy Baldwin was actually checking the tweeter alignment, my wife came into the room to hear the soprano that happened to be doing her thing at the time, simply because she sounded so real and interesting.

The panzerholz is at least in part responsible for delivering an exceptionally quiet enclosure signature here, which results in an unusually low noise floor and hence a very wide dynamic range. In this regard it's as good or better than either aluminium (which I tried quite recently) or indeed my structural wall (through which I recently mounted a vintage Goodmans Triaxiom full-range 300mm driver). Panzerholz is at least as good and probably rather better than those already impressive alternatives, though it is of course considerably more costly than either.

Crucially, of course, minimising background noise and 'hash' is the core technique that underlies Vertex AQ's approach to hi-fi accessories and components. The fact that the two companies have a common direction is unquestionably very relevant, and as a consequence the result is rather different from the norm. There isn't the sort of dynamic exuberance one sometimes finds with high sensitivity horn-loaded designs, but the dynamic range is arguably still more impressive here, as is its ability to maintain this wide dynamic range even (one could say especially) when the volume is turned up to high levels.

Indeed, although it works fine at modest levels, even delivering speech clearly and explicitly, the Classic favours 'a bit of wellie'. As the volume was increased, dynamic vigour hangs on in with impressive enthusiasm and any tonal idiosyncracies from the deliberately non-flat response that might have been more noticable at lower levels seem to fade into the background. Even as I began to approach the limits

## TECHNICAL SPECIFICATIONS

### 3-way loudspeaker (reflex loaded midrange and woofer)

**Bandwidth:** 25Hz to 60kHz

**Sensitivity:** 92 dB (2.83V@1m)

**Impedance:** 6ohms nom., 4ohms min.

**Size (WxHxD):** 33x121x49cm

**Weight:** 99kg

**Price:** from £40,784 (tested at £50,279)

**Manufactured by:** Kaiser Acoustics

**URL:** [www.kaiser-acoustics.com](http://www.kaiser-acoustics.com)

**Distributed in the UK by:** The Right Note

**URL:** [www.rightright.co.uk](http://www.rightright.co.uk)

**Tel:** +44(0)1225 874728

of the NAP500 amplifier's power delivery, the Classic held together admirably, and simply demonstrated its magnificent dynamic range as it got louder.

The Classic's deliberate tonal balance decisions inevitably lead to a degree of coloration, but such coloration is an easy problem to ignore in this case, because the timing here is truly excellent, defining leading edges with unusual accuracy and rendering any errors of tonality largely irrelevant.

The relatively slim front view and the decoupled tweeter in its tiny sliding head unit all contribute to truly outstanding stereo imaging. The front-mounted 180mm driver handles the bulk of the audio bandwidth in any case, from the mid-bass right into the lower treble, so in some senses the Classic behaves like a single full-range driver system. With careful setting-up, the RAAL tweeter in its tiny, but reassuringly hefty, movable, and decoupled enclosure, can help refine the system time alignment at the extreme top end.

I felt absolutely no inclination whatsoever to try any of the several alternatives that are available out there while using the Kawero! Classic. There's no avoiding the Classic's unquestionably high price tag, which will certainly rule it out for many potential customers; but for those that can afford it, this loudspeaker has plenty going for it. It certainly looks good, and delivers the sonic goods to match, especially for those who like to play their music at high levels. It might not have the most neutral tonal balance, but that's no great hardship in view of the excellent timing and outstanding dynamic capabilities and range. Now that they have gone, I miss them, and that's a very rare experience for me. +

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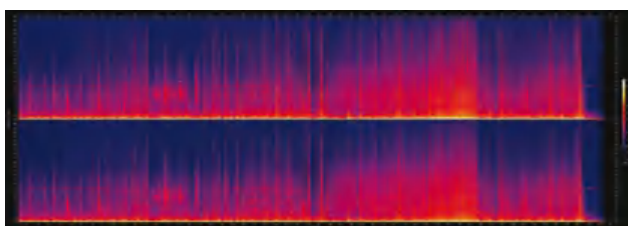
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Neil Gader, The Absolute Sound, Newport Show 06-06-2014

*"The Raidho X1 was mightily impressive,  
Vocals had fullness and imaging was spot on"*  
Home Theater and High Fidelity, Newport Beach Show 2014

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Anthony Kershaw, Audiophilia 16-07-2014

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# Cyrus Stereo 200 power amplifier

by Alan Sircom

**T**he audio amplifier is in transition, because it's becoming hard to justify a physically large, heavy, and energy hungry design today.

Although Class D operation offers a resolution to all these issues, audiophiles often dismiss this technology for its sound quality. Which is why the Cyrus Audio 200 power amplifier is potentially so important.

With the Cyrus 200, Cyrus Audio claims to have built a Class D circuit that delivers high power (200W into six ohms, 175W into eight ohms) that not only fits into the standard Cyrus half-width HA7 die-cast aluminium chassis, but also sounds exceptionally good. Cyrus has eschewed buying off-the-shelf amp modules (from companies like Hypex or ICEpower), and instead designed its own Class D amp modules from first principles.

Significantly, the company recognised that Class D's 'voice' is effectively governed by the impedance of the loudspeaker to which the amp is connected. Starting with the all-in-one Lyric system, Cyrus included

its SID (Speaker Impedance Detection) circuit in all its Class D designs. On power up, SID sends a reference signal to the left loudspeaker, compares what it receives from the loudspeaker with that reference, and adjusts the output of the amplifier accordingly. In most other Class D systems, the best you can do is to cycle the power a few times and hope for the best.

Cyrus Audio calls the Stereo 200 a 'hybrid' design, but it's not a hybrid in the conventional audiophile sense – don't go looking for valves. Instead, the company chose to couple this sophisticated Class D design with a linear power supply more commonly found in Class A and Class AB amplifiers. Class D designs are so commonly accompanied by switch-mode power supplies that people mistakenly think switch-mode is an intrinsic part of the design itself. And when you gaze long into the 'singing shoebox' case, the small 475VA toroidal transformer will gaze back at you (no abysses were harmed in the making of this sentence).

By using this 'hybrid' Class D, the Stereo 200 sports a smaller and lighter transformer than expected for a 200W power amplifier, and the whole device weighs just under 7kg, or a shade below fifteen and a quarter pounds. Staying with imperial measurements, Cyrus has long been good at squeezing a quart into a pint pot, as is reflected in the densely packed back panel of the Stereo 200. It has XLR and single-ended phono inputs, a pair of 'chain' phono outputs for additional power amplifiers in a bi-amp setting, a mini-jack standard trigger socket, and two of Cyrus' own MC-BUS phono connectors, which are used to send comms signals between Cyrus devices. Add in two pairs of WBT-like loudspeaker terminals and a three-pin ICE socket, and there is barely any rear panel real-estate left – just enough for 'made in England', in fact. ►







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► While this is not Cyrus' first stab at Class D (that honour goes to Lyric), this is the first time the company has incorporated the technology in its main audio separates line. The intervening years between the launch of Lyric and the Stereo 200 has allowed Cyrus to refine the technology, with higher quality components in the reconstruction filter, and greater isolation between 'support' electronics and the amplifier itself.

We used the Cyrus 200 with the Stream XP2 Qx streaming preamplifier/DAC, fed from a Naim UnitiServe. The Stream XP2 Qx is an upgradable 24/192 DAC with UPnP and DNLA compatibility through Ethernet. However, this meant single-ended output only. This is an excellent streamer, great DAC, and a pretty good preamp in its own right, especially at around £1,600. The Stream XP2 Qx's first round of reviews were good, but they criticised its reliance on the remote handset; since then, Cyrus announced its own Cadence app, and this moves the functionality of the design forward a few notches.

Back to the Class D design. The Lyric this amp is designed from always had 'space' and, in terms of soundstaging, some 'pace' too; but the Cyrus 200 adds more 'grace'

and even more 'pace' to the mix. What this means is that we can put away the 'Class D' discussions, while talking about how the amplifier actually sounds. If anything, the way the Cyrus 200 sounds in the flesh is closer to a really well-executed valve amp (with better Damping Factor).

The sound of the Cyrus 200 is remarkably clean, but not in a cold or sterile way; it's more like looking at a high-resolution photograph, amid a wall of grainy, noisy prints. It's not a lifting of veils, more an increase in precision and accuracy. Play something pure of tone – like Kat Edmonson's voice on 'Lucky' from her *Way Down Low* album [Okeh/Sony Masterworks] – and you are rewarded with an extremely pure vocal free from any grain, hardness, edginess, or soundstage manipulation. The voice sounds as if it were physically 'there' between the loudspeakers, with the only real limitations coming from the loudspeaker boxes. You quickly begin to realise this 'thereness' holds throughout, but it also comes from the midrange out.

The Cyrus 200 is not mid-forward, and there is no emphasis toward the midrange. But it is an amplifier that delivers a noticeably great midrange, while the frequency extremes are in the very good class. Bass is surprisingly deep and potent for so lightweight an amplifier (normally that much clean bass needs a lot of reservoir capacitance and a far bigger power transformer) – a bass that is good enough to bust out 'Handsworth Revolution' from the Steel Pulse album of the same name [Virgin]. Here, the combination of roots reggae beat and dub bass depth has great presence and intensity. This album practically defines 'phat' bass decades before the term was coined, but can only do that to its fullest extent with a system that has excellent depth and control. It's here where the tube amp sound analogy breaks down, but in a good way, because few valve amps have the 'grip' of the Cyrus 200.

Where this valve amp comparison hits home is in soundstaging. The Cyrus has a rare and valuable sense of three-dimensionality in its imaging that ►

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► normally comes from the thermionic end of the amplifier spectrum. And yet, unlike thermionic valves, the Cyrus 200 is state of the art and relatively cool running in use. The live Shostakovich and Tchaikovsky piano trios played by Argerich, Kremer, and Maisky [DG] are a fine example of this soundstaging at work, in that you get a sense of the physical stage itself, and of three artists playing to a live audience through ambient information. As this is a late 1980s DG recording, this trio work isn't like an audiophile pressing that could make a 3D soundstage when played through a transistor radio, so the fact the Cyrus 200 pulls as much staging information out of the recording is a sign of something good.

The acid test of a Class D design, and especially a design that includes impedance matching, is how well it works on a range of loudspeakers. More importantly, can it move from loudspeaker to loudspeaker with the ease of Class AB designs? The answer is 'yes', but a qualified 'yes', and fortunately for Cyrus, that qualification rarely applies in the real world to the kind of loudspeakers used on the end of a power amplifier at the Cyrus 200's price point. There is no sense of 'random characteristic generation' when moving between two different loudspeaker designs here; that 'space, grace, and pace' refined character holds true across loudspeaker designs. The Cyrus 200's *bête noir* is really punishing impedance loads, but fortunately this becomes largely the stuff of reviewers torturing products for fun and profit: no-one sane is going to run a pair of old Apogee Scintillas, for example. Stay above four ohms, don't get it wet, and never feed it after midnight, and your Cyrus 200 will be your friend for life.

I think Cyrus has nailed Class D with the 200 power amplifier. I've heard my fair share of Cyrus amplifiers in my time, and this one is at least up there with the best of them. But more than that, the Cyrus 200 is an important amplifier, because it shows what Class D can do without costing a small fortune. While I've 'banged on' about Class D here (partly because the technology still has to justify its place in the audiophile hierarchy), I suspect most people who hear this amp will simply buy it because it sounds damn good. Highly recommended. +

## TECHNICAL SPECIFICATIONS

**Inputs:** 2x RCA phono single-ended, 2x XLR balanced line, 12V trigger, MC-BUS input phono

**Outputs:** 4mm/spade/bare wire loudspeaker terminals, 2x RCA phono single-ended chain out, MC-BUS output phono

**Power output (continuous @ 0.1% THD+N):** 175W per channel (into 8Ω), 325W per channel (into 4Ω)

**Connectivity:** Full RS232 control provided to allow a suite of Stereo 200 to be connected together, MC-BUS to other Cyrus products

**Inputs:** RCA phono or XLR balanced, 12V trigger

**Power supply:** 475VA Toroidal transformer

**Dimensions (HxWxD):** 73 × 215 × 360mm

**Weight:** 6.9kg

**Finish:** Black or silver

**Price:** £1,750

**Manufactured by:** Cyrus Audio

**URL:** [www.cyrusaudio.com](http://www.cyrusaudio.com)

**Email:** [info@cyrusaudio.com](mailto:info@cyrusaudio.com)



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# Stillpoints Apertures acoustic panels

by Chris Thomas

**M**any years ago, I decided that my ear and brain were the best acoustic treatments sound could get. The thing with acoustic treatments in general is that dealing with one area often merely shifts the problem to another, hence those towering absorbing pillars that tend to sprout up around larger rooms. Sound quality is, to a large extent, a matter of personal taste, and this means that one man's over-damped acoustic is another man's flat room. And there's that word 'flat'. Place a microphone where your head is usually situated, play some tones, and you can see the room's response with a spectrum analyser. I had an acoustician friend come to do this in my listening room and show me a picture of the room in real time. There were humps and dips everywhere.

Of course, knowing more precisely what is happening acoustically is only the start, but it does provide the means to attempt a correction. For instance, I was able to watch the effect that various devices had on my room's response and then, by listening to music, make a judgement as to whether they actually worked and this, I think, is the crux of the whole exercise. It is completely understandable that you want your music to sound at its best. Getting there – acoustically anyway – is a very different story. Let's face it, the sound and acoustics are never going to be perfect (whatever perfect is). For me, at least, there is little else that is as uncomfortable and atmospherically cloying as an over-damped room. I would say that a relaxed listening space is at least as important as an acoustically balanced one; achieving both can be difficult.

Acoustic consultants will design or treat spaces where music is to be played (or played-back) – be it a concert hall, recording studio control room or even a listening room – with a view to reverberation times and reflections etc. But there ►





► is no machine or set of calculations within their armoury that will guarantee that the space will actually sound any good. If there was, then concert halls and recording studio control rooms would sound a lot better than they do. The recording studio trend toward using small speakers of low quality affixed on or near the desk itself (let's call them 'near-field monitors' as it sounds cooler) began as much for the unruly behaviour of mammoth cabinets with massive bass drivers traditionally employed as some sort of reference point. The problem was that these 'near-field monitors' provided no reference at all, but rather a cacophony of booming bass with cutting edge sizzle transplanted on top. Articulation? Forget it. Let's listen through the little 'uns.

But back to the domestic listening room where the problems are similar but on a different scale. There is no 'perfect' acoustic, but there is music. We need it in our lives and we want to make it as accessible and involving as we can, so we often embark on a path of system improvements but seldom take effective steps toward addressing the behaviour of the room. Most of us have to live there as well. Over the years, I have tried everything, from tiny bowls of different metals strategically attached to the walls, to towering micro perforated panels, and plenty in between. All made a difference, but somehow I have managed to live without them, preferring the raw and rather reflective nature of my 'over-live' listening room.

I like a bright, live sound it seems, and it's amazing what you can get used to.

I was very surprised when I heard that Stillpoints had ventured into the acoustic arena and thought that their Aperture panels initially looked like they would probably be employed as absorbers for a bit of bass cleansing. However, I was wrong. What came as a huge surprise to me was just how precise our hearing and memories are when it comes to our own listening rooms. In hindsight, it really shouldn't have been so surprising.

My first exposure to the Apertures came when I unpacked six of them and initially sat them hard against the rear wall on the floor, between and behind the speakers that were standing about a metre out. Close your eyes when you are listening and hopefully the lack of visual distraction will enable you to concentrate and have a better connection with the music. When I did this with the Apertures sitting there I couldn't believe how the rear wall had almost vanished. The acoustic space between the speakers, where most of the musical action was happening, had taken on a completely different dimension. It seems to me that when we listen we subconsciously map the room's boundaries, but only become aware of it when something radically changes. With the Apertures lined up in admittedly haphazard fashion the boundary between the wall and the floor vanished. The effect was initially stunning. Not just the change of depth ►

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*“My listening room is different to yours, so it’s impossible to make hard and fast rules as to where you should place the Apertures.”*

► perspectives, but also the increase in instrumental freedom, and the improved focus of the music. Reviewers like to speak of the sound becoming detached from the speakers, and this is indeed a good thing. But here was a whole new way of achieving that. After early listening I began to understand why Stillpoints had explored this area. In many ways it was not that different from what they had been doing for years. Their resonance control products free the music, giving it more air, much more speed, and instrumental eloquence and control, right down to note level. These panels will also help remove the music from the mechanical confines of the system. The Apertures were doing something very similar but within the room’s acoustic: both panels and the Apertures can have equally profound effects.

Each Aperture measures 560mm square and 75mm deep. They can be supplied in a couple of forms. The solid-wood framed versions were the ones I used. The special fabric that covers the working parts is recessed within the frame. According to Stillpoints, identifying exactly the right material took time. The fabric they chose won’t sag, and will resist probing fingers and return to shape. Using dye-sublimation printing they can also be used to imprint anything from a company logo to a highly detailed photograph and still remain sharp, taut, and acoustically transparent. There is another version of the Aperture where the cloth covers the whole of the panel and the internal frame in these is formed from plywood.

Stillpoints are understandably a bit more guarded as to exactly what is contained behind the grille. Essentially, the Apertures incorporate three technologies: an absorber, a diffuser, and a resonator. These treatments are obviously available individually through other acoustic solution products. But this is a relatively small and domestically acceptable design that claims to do a bit of everything. I do know that the absorber is a heavily bonded fibreglass design that traps moving air into crevices to limit its reflection. It is designed to self-attenuate with changing volume levels in the listening room itself, and the aim is to form a kind of acoustic vortex, rather like a sonic Black Hole.

All in all, the Aperture is a reasonably compact device that shouldn’t be too difficult to accommodate in most rooms, and achieving this is where the interesting part begins. Each panel can be fixed to the wall with the lightweight metal attachment provided and hung like a picture; or they can be left freestanding

at floor level or sitting on a convenient support anywhere in the room. The third way incorporates a mounting method I have yet to see, which is supplied by a US-based company called Sound Anchors. This is an adapted speaker stand supplemented with a fitting capable of accepting between one and six Aperture panels for either a semi-permanent or mobile approach to room acoustics. These stands are available through Sound Anchors themselves and not Stillpoints, although Sound Anchors are now manufacturing speaker stands that actually incorporate Stillpoints Ultra devices so the collaboration between the companies has been fairly established.

My listening room is different to yours, so it’s impossible to make hard and fast rules as to where you should place the Apertures. But I can suggest that if you sit with your back close to a wall then that wall will be a very wise place to start. Additionally, the wall behind the speakers is a prime candidate for treatment, as is the area between the speakers on the rear wall, though some experimentation with height is recommended. You will certainly have an intuitive feeling where the best place will be, but I would strongly advise that you have a bit of fun and move them around. I guarantee you will be surprised. Side walls and just about anywhere that first reflections might be a problem are prime positions for the Apertures. They can open the acoustics of narrow rooms enormously by reducing the effects of reflections when mounted, probably at driver height, along the walls. Longer rooms might ideally need two per side, and really large spaces could require even more treatment. This is obviously where a free mounting system like the Sound Anchors stands could come in handy.

I listen across a through-lounge so the room is in many ways unbalanced. To my left is another room and to my right is a large bay window. I found that placing a single Aperture at head height to my left effectively attenuated the large, open acoustic space so much that it became actually audibly confining, and although it balanced the room and made it more acoustically symmetrical, I didn’t like it at all. Again, it is a question of making an audio map of your own space. I discovered, or should I say reconfirmed, that I really don’t like a lot of damping in my room and I don’t want anything in there that ‘closes’ the space too much. What is great about the Apertures is that you can use them strategically both to focus the music and to bring its whole field of sound closer without negative effects on tonal balance. ►

► The film music from the *Crouching Tiger, Hidden Dragon* (2000) really shows what the Aperture can bring to the musical experience. Bowed instruments can be so very expressive in the hands of a sensitive master, and the central theme of the movie is quite lovely through just about any system, anywhere. But with five Apertures in the room, two on the rear wall, one behind each speaker, and one in the middle the acoustic space, opened up the sound in all dimensions. The Apertures have an uncanny ability to 'quieten' a space and remove boundary effects without excessive damping or any noticeable attenuation of high frequencies. This gives full rein to the dynamics, large and small, and especially to the gorgeous textures of the instruments. With the panels in place, the main theme was achingly beautiful, and the phrasing exquisite. The almost languid bowing brought a velvet texture brimming with tightly gathered harmonics that elevated the performance immensely. Another bowed instrument – I don't know its name, but presumably of classical Chinese origin – had an open-throated character unsettlingly like a human voice. Pure, plaintive, and unbelievably sweet, this instrument's unusual tonal envelope and note 'shape' soared into the room, free of the confines of the system. It reached out and touched all who were listening. Remove the Apertures and it is still good, but calming those areas of the room usually excited by the energy of the instrument brought it closer and left it so much more vivid that it was thrilling. All who were present agreed. It wasn't just the change in perspectives or the spooky expansion in width and depth, though these are welcome additions; it was the increase in instrumental freedom, the clarity of supporting instruments, and of course, the remarkable opening of acoustic space beyond the room boundaries that was so beguiling.

With the Apertures it's getting this balance right that is the trick. Unlike other panels that seem to take some of the music with them, the Apertures don't. Tord Gustavsen and his trio are cool, slightly aloof musicians playing on Manfred Eicher's ECM label. 'Being There' is my favourite title and it is ECM to the core. Dark, sonorous backgrounds and an eerie quietness to the recordings bring a sombre and rather serious tone to Manfred's recording sound. I have always found the piano to be rather dark, but the Apertures were effective here. They increased the recording space and left a glow to the piano and actually improved the attack and shape of each note.

Melody Gardot's albums, and in particular *The Absence*, continues to hold an elusive fascination for me, but I have to pick the times I listen to it very carefully. Late night, in the still air is when I usually reach for it. For me it can offer a seriously immersive listening experience, and if I enjoyed the intimacy

and nakedness of her emotional baggage before, then the addition of the Apertures only intensified this. When an artist feels as if she is singing to you and telling you her story, it's certainly special. But to hear the relationship between her and the musicians change so radically so it seems as if she moves closer to you and further into the room is astonishing. I have seldom heard a listening space so wonderfully ripe with an atmosphere positively dripping with presence.

There is nothing new in the world of acoustics from the point of view of the way that sound behaves. Most of it has been known for decades, but now there are new materials and inspired thinking about how to make use of such knowledge. The Apertures demonstrate this. They work excellently, but do require some experimentation to get the desired effects. Ultimately, the Apertures are the acoustic treatment for those who aren't particularly looking for any. Yes, they can certainly help with the usual listening room anomalies, but they can go much further than that. As I mentioned before, placement is everything, but their potential can be huge. They will treat standing waves, and they can tidy up troublesome corners; but after several months' use I see them as an invaluable tool that focuses the music, and reduces boundary effects. The Apertures are also the perfect accompaniment to a Stillpoints-equipped system: together they work brilliantly.

If you can borrow a few from your dealer have an open mind and the taste for experimentation; I would absolutely recommend that you give them a try. +

## TECHNICAL SPECIFICATIONS

**Type:** Acoustic Panels

**Fixings:** Picture rail-type fittings supplied. Sound Anchor stands available

**Finishes:** Walnut, Dark Cherry, Maple. Available with or without visible wooden frame. Different grille colours also available

**Dimensions (WxHxD):** 560x560x75mm

**Weight:** varies according to covering

**Price:** £600 per panel.

**Manufactured by:** Stillpoints

**URL:** [www.stillpoints.us](http://www.stillpoints.us)

**Distributed by:** Kog Audio

**URL:** [www.kogaudio.com](http://www.kogaudio.com)

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Jordan Acoustics - Bournemouth Unit 2 - The Old Cart Building Parley Court Barns, Parley Green Lane Hurn, Dorset BH23 6BB

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# Modwright PH 150 phono stage

by Jason Kennedy

**M**odwright's founder, Dan Wright, started out modifying third party components, which makes the company's name entirely appropriate. But while Modwright still modifies products, today it is better known for its own range of electronics that incorporate both valves and transistors housed in thick aluminium casework with blue lighting, such as the PH 150 tested here. The PH 150 is the only phono stage in the Modwright line, and it's quite an ambitious beast, with a whole host of controls on the front panel. When you

think that most phono stages are totally devoid of accessible controls, this makes a distinct change; it adds to the phono stage's cost and signal path length, but it has the advantage of making positive changes to cartridge load and gain.

Having used phono stages with fiddly DIP switches, which can only be set by someone who has better than 20:20 vision and a friend to cross-reference the phono cartridge's loading with the manual, this sort of user friendliness is very welcome. The PH 150's feature set starts with moving coil or moving magnet cartridge inputs, and a mute position between the two on the left most knob. In true valve engineering tradition, the MC input has step-up transformers to bring the output up to a level where it can be amplified by a thermionic device without noise becoming an issue.

Next in line after the power button is a gain adjuster with three settings; 0dB, -6dB, and -12dB. These apply to both the MM and MC inputs. I used the ▶





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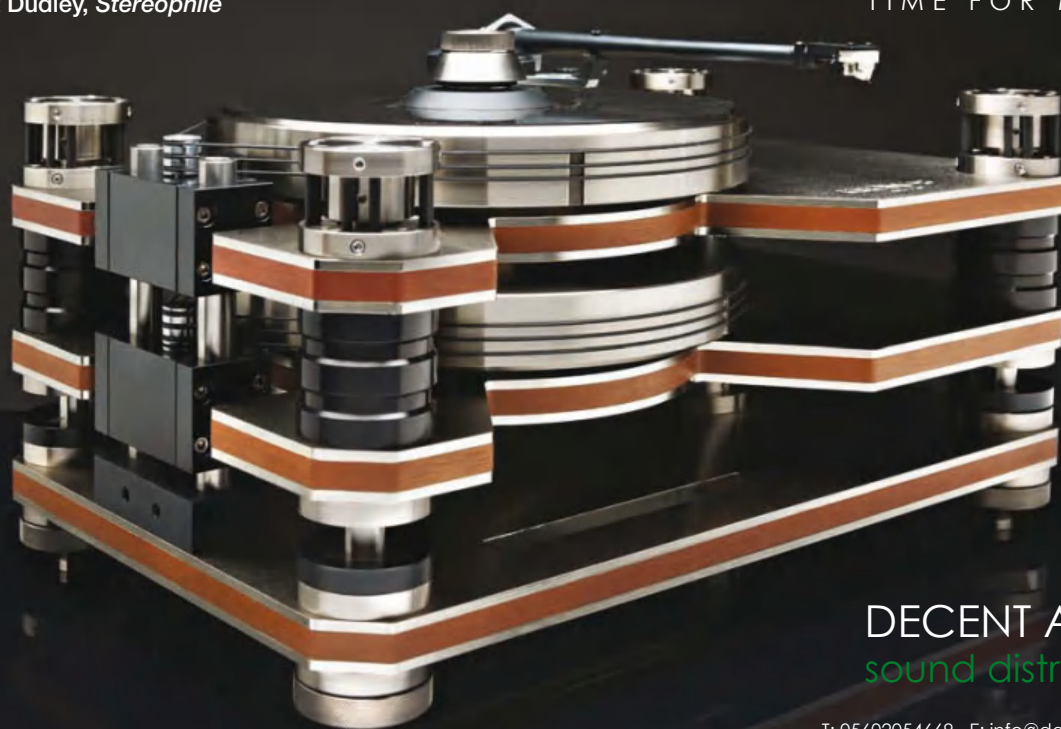
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*“It’s intrinsic sound can be described as natural; that is, it’s relaxed and tonally rich, making voice and acoustic instruments seem believable and real.”*

► 0dB setting that produced higher gain than most phono stages, at least with the two MC cartridges I tried. The next knob lets you dial in capacitance to suit specific moving magnet cartridges. Initially it seems a bit odd to include a MM input at all; after all who would use what many consider to be relatively crude technology with such a high-ticket phono stage. However, some cartridges require unusual impedances to show off their best, and it would be impossible to accommodate them all with onboard transformers.

The last controller on this extremely well-finished box is for selecting MC load impedance. This is useful if you are using the internal step-ups. Cartridges usually specify an optimum load, but in practice the best impedance tends to vary with the phono stage in use. So it’s really great to be able to try different settings on the fly. The most obvious difference that the ability to select a MC load impedance on the PH 150 delivers was to change the output due to increased impedance. But when that had been taken into account, I found that not only did it produce surprising differences in timing, but also altered the way that different instruments worked together; and it wasn’t too difficult to find an optimum setting either. It’s inconvenient that being able to select a MC load impedance involves more than just picking the loudest option. I should also mention that the Modwright has a mono switch which is a luxury even at this price, and an increasingly useful one, what with the slew of reissues being made available in this surprisingly effective format.

The PH 150 has Lundahl step-up and output transformers offering both single-ended and balanced outputs, and proper line driving capabilities - which is useful should you require long interconnects. As is pretty much the norm with phono stages, the power supply is in a separate case, again with a chunky aluminium faceplate. The two are connected with a bright blue umbilical that Modwright calls ‘Truth’. The power supply itself is a solid-state type with a reasonably chunky toroidal mains transformer and no controls so its

significant bulk can be stashed away, albeit no more than four feet from the PH 150.

Quite a lot of valve phono stages sound like valve phono stages, and not necessarily in a good way. I would rather not hear any character from audio electronics, but the popularity of valves would suggest that this is not a universal opinion. The PH 150, however, is not that way inclined, and while there are certain aspects of its sound that one associates with thermionic amplification, they are well controlled and avoid making their presence heard most of the time. The sound is not as precisely focussed as it is with a good solid-state stage, but it has plenty of power and decent, if not a floor-shaking bass extension. Its intrinsic sound can be described as natural; that is, it’s relaxed and tonally rich, making voices and acoustic instruments seem believable and real. Valves can create a soft, overly large, and refined but indistinct sound with poorly defined leading edges, which thankfully is not the case here. In fact, the presentation is quite similar to a good, solid-state stage.

Playing Joni Mitchell’s ‘Sweet Sucker Dance’ [Mingus, Asylum] with a Van den Hul Condor Gold MC on the Vertere SG-1 arm ►



▶ atop an MG-1 turntable from the same brand, I was struck by a slight dustiness to the snare sound, and the fact that the noise floor had risen compared to my Trilogy 907 phono stage. But what was also apparent was that the PH 150 'times' well and can make Joni's voice seem so real. The tonal transparency of the amplifier may not be as precisely etched in stereo image terms, but the vitality and vibrancy of the sound makes up for any lost transparency. The next track, 'The Dry Cleaner From Des Moines', has fabulous brass stabs that reveal the alacrity with which the Modwright can stop and start. While it may not be the quickest in this regard, the fact that the brass has so much brassiness is rather nice.

This inspired me to play a valve-era recording by the Marty Paich Big Band [*The New York Scene*, Discovery]. Trumpeter Stu Williamson was one of the lesser-known players in this star-studded ensemble, but 'I Love Paris' with its muted trumpet reveals why he was included. At the other end of the scale, you have Scott LaFaro's double bass that sounds round and full. And then there's Jimmy Giuffrè's clarinet, for which sublime is the only word that seems appropriate to describe it. The clarinet's tone is pretty close to the voice, for which the PH 150 offers superb delivery, as is proved with the way in which it handled Taj Mahal singing in Conjure's *Music For The Texts Of Ishmael Reed* [American Clavé]. With the PH 150's handling of this piece, it's not so much that you get a palpable image in the room, but rather that you feel you are able to understand what that voice is really saying, and what the underlying message is all about. This is partly because the stage separates everything in the mix so well, making it easier to appreciate what each is doing.

With a Rega Apheta 2 MC on the RP10 turntable, the PH 150 revealed the extreme neutrality of the front end, and delivered a tight, yet vibrant version of events that was engaging, though perhaps less tonally rich. With such an arrangement, the immediacy was greater, and instruments and voices had more 'body'. With 'Postmodern Blues' from Patricia Barber's *Modern Cool* [Premonition], the low frequency backdrop is well handled, though not fully extended. The PH 150 clearly emphasises the way the bassist's left hand slides on the neck of his bull fiddle, at least until Ms Barber joins the fray, and then every syllable of her voice in this complex passage is easy to comprehend.

The Modwright PH 150 is not your typical valve phono stage. It's a bit more precise than that, but it does deliver many of the traits that make the technology appealing in the 21st century. The PH 150 is not as dynamic as the best in its class, but it is more tonally even than many; combined with its high quality build and ease of adjustment, this make for a very interesting option for those who want to hear more from their vinyl. +

## TECHNICAL SPECIFICATIONS

**Type:** Two-piece, valve, MM/MC phono stage  
**Phono inputs:** Two pairs single-ended (via RCA jacks)

**Analogue outputs:** One pair single-ended (via RCA jacks), one pair balanced (via XLR)

**Input Sensitivity:** Not specified

**Input impedance:** 10 Ohm – 47kOhm

**Input capacitance:** 0 - 680pF

**Output impedance:** Not specified

**Output level:** Not specified

**RIAA linearity:** Not specified

**Distortion:** Not specified

**Signal to Noise Ratio:** Not specified

**Dimensions (HxWxD):**

Phono stage preamp:

127 × 432 × 305mm

Power supply unit (PSU):

127 × 267 × 216mm

**Weight:** 40.7kg

**Price:** £6,250

**Manufacturer:** Modwright Instruments, Inc.

**URL:** [www.modwright.com](http://www.modwright.com)

**UK Distributor:** BD Audio

**Tel:** +44(0)1684 560853

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### Competition Question

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# Noble Audio 4S custom-fit in-ear monitors

by Chris Martens

**W**hen we were children I suspect many of us received, at one point or another, stern admonitions from our parents against putting foreign objects (pencils, bits of modelling clay, green beans, or the like) in our ears. But while those warnings were probably issued with our best interests in mind, the sad fact is that their effects seem to have lingered on in the minds of some full-grown audiophiles reluctant to try any sort of in-ear listening devices. As I see it, this is a terrible shame as one of the most potentially

satisfying experiences available to today's audio enthusiasts is to listen to music through a fine pair of custom-fit in-ear monitors (or CIEMs, for short). One such set of CIEMs would be the Noble Audio 4S's (£630), the subjects of this review.

For those unfamiliar with CIEMs, let me mention that, unlike universal-fit earphones, CIEMs make no attempt to provide compact, 'one-size-fits-all' earpieces or small rubber ear tips of varying sizes. Instead, CIEMs provide earpieces custom-moulded to fit the exact contours of a particular listener's outer ears (or pinnas) and ear canals. Indeed, ►





► there are few more personalised experiences possible in the world of high-end earphones than to own and enjoy a set of CIEMs crafted for you and you alone. The idea behind the make is that CIEMs' custom-fitted earpieces offer exceptional noise isolation, while also providing earpiece enclosures of sufficient volume to house sophisticated, multi-driver arrays. Consequently, CIEMs not only give their owners fundamentally superior sound quality, but also provide quiet enough backgrounds so as to appreciate that sound quality in a fuller and deeper way than might otherwise be possible.

A few months back (in *Hi-Fi+* issue 119) I reviewed Noble Audio's flagship Kaiser 10 CIEMs and concluded that they offered a rich, sumptuous, and intensely immersive sound that, though perhaps not quite neutral enough to be suitable for monitoring applications, nevertheless invited listeners to become, "caught up in the complex, intoxicating beauty of music." After that review was published, Noble Audio co-founder and co-owner Brannan Mason told me he hoped I might one day try a set of Noble 4-series CIEMs as he considered them to be the most accurately and neutrally-voiced of all his firm's in-ear monitors. Mason's comments sparked my interest, eventually leading to this review.

Early on, I discovered Noble actually builds three versions of its model 4: the standard Noble 4 (£300), which is a

universal-fit earphone, the Noble 4C (£450), which is a CIEM supplied with acrylic earpieces, and the Noble 4S (£630), which is also a CIEM, but one supplied with earpieces made of flexible silicone material. In choosing the Noble 4S's for this review I had two objectives in mind. First, I wanted to see how the 4S differed from Noble's Kaiser 10 in terms of voicing and overall sonic characteristics. Second, I also hoped to learn how or if silicone earpieces differed in terms of fit, comfort, and sonic characteristics from the acrylic ones used in the vast majority of CIEMs now on the market.

The Noble 4S is a three-way, dual-bore, custom-fit in-ear monitor that uses an array of four balanced armature drivers (two bass drivers, one midrange driver, and one high-frequency driver) per earpiece. The 4S's ship with detachable, user-replaceable 1m signal cables equipped with industry-standard 2-pin earpiece connectors and a 3.5mm stereo mini-plug on the amplifier end of the cable. The monitors arrive in a sturdy, watertight, padded hard-shell carrying case that bears a Noble logo on the outside, with the owner's name permanently etched into the top of the case. On the inside, the case includes the 4S packed within a velvet carry bag, a pair of Noble-branded rubber straps (used to attach portable audio devices or smartphones to a portable headphone amp or the like), a tool for cleaning the CIEM's earpiece bores, and an owner's identification card. ►





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*“The 4S is happy to serve as a fundamentally clearer, more unfettered, and more honest conduit for the music.”*

► For my listening sessions, I fed the Noble 4S a mix of standard and high-res uncompressed PCM, DXD, and DSD-format digital audio files delivered either through an Astell&Kern AK380 high-res digital audio player (reviewed in *Hi-Fi+* issue 126), or through my reference Lenovo-based music server running jRiver Media Center software. The 4S was driven by a variety of amp/DACs, including the Astell&Kern AK380, the Celsus Sound Companion One (reviewed in *Hi-Fi+* issue 126), and the superb Chord Electronics Hugo (reviewed in *Hi-Fi+* issue 111). For comparison purposes, I had on hand several top-tier CIEMs, including the Noble Audio Kaiser 10 and JH Audio Roxanne monitors.

As mentioned above, Noble Audio touts the 4S for its exemplary neutral voicing, so I was keen to learn precisely what Noble means by the term ‘neutrality’ in a practical sense. I raise this point because neutrality can sometimes have significantly different meanings for different companies (and listeners). For some, a neutral-sounding transducer would be one that potentially can serve as a fine analytical or diagnostic tool for assessing the quality of specific recordings. No doubt there is a place in the market for such CIEMs, but the trouble with listening to music through primarily analytical devices is that they too often sound like the sonic equivalent of cod liver oil: awful to experience, yet ostensibly good for you.

For others, however, a neutral-sounding CIEM would possess the uncanny quality of musical ‘naturalism’, where recordings are reproduced with almost complete freedom from obtrusive tonal imbalances, colorations, or other sonic aberrations, whether of an additive or subtractive nature. The emphasis, in this case, is on creating a transducer that has the rare and valuable ability to get out of the way and simply let the music speak for itself. I’m pleased to report that the Noble’s 4S is a prime example of a neutral CIEM in this latter sense of the term.

Right from the start, the 4S put me at my ease because it offered a compellingly natural, unforced, and unembellished delivery of the music in terms of tonal balance, detailing, and dynamics. With many transducers, one has the sense that the product is somehow imposing its own persona on the music—almost as if a literal filter or equaliser had been inserted into the signal path. With the 4S, however, no such unwelcome tone-shaping characteristics or ‘filters’ insert themselves as

barriers between listeners and their music. On the contrary, the 4S is happy to serve as a fundamentally clearer, more unfettered, and more honest conduit for the music.

In terms of tonal balance, the 4S offers well-defined and yet unexaggerated bass; transparent and open-sounding mids; and pleasingly extended, tightly focused, yet also uncommonly smooth highs. The key point is that each of these frequency bands is well balanced and proportionate to the others. Indeed, I believe this is where the 4S’s quality of effortless naturalism originates. But another essential ingredient involves the fact that the 4S’s mids and highs are uncannily smooth, with no abrupt peaks, troughs, or rough edges in the Noble’s frequency response curve distracting or annoying listeners. Put these qualities together and you have the recipe for a CIEM that is at once highly accurate yet also engaging and easy to listen to for extended periods of time.

Far from sounding lean or astringent, the 4S has a certain robust and easygoing demeanour stemming from the fact that it consistently sounds unstrained and unforced no matter what types of music you play. If, for example, you put on an orchestral work with large brass fanfares and potent low-frequency percussion passages, such as Mark O’Connor’s ‘Fanfare for the Volunteer’ [*Mercurio*, London Symphony Orchestra, Sony], the 4S rises to the occasion with an admirable combination of grace, power, and finesse. The 4S presents the low percussion instruments with clearly defined pitches and textures, plenty of weight and depth, and tons of transient punch—all without exaggeration. Similarly, the 4S helps the LSO brass section sound appropriately burnished and blazingly brilliant as the music warrants; yet without a trace of blare, glare, or overemphasis. My point is that the 4S seems able to deliver precisely what the recordings at hand require—but without adding editorial embellishments of its own.

Similarly, the 4S is at ease with smaller scale pieces that place a premium on nuance and textural finesse. Listen, for example, to the brief but excellent 58-second-long track “Bell Painting” from Marilyn Mazur and Jan Garbarek’s *Elixir* [ECM], and note how delicately and deftly the 4S handles the high-pitched bells and chimes featured on that track, complete with their shimmering high-frequency harmonics and overtones. This track can prove difficult for some CIEMs to reproduce, but through the Nobles it sounds just right thanks to their ►

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► inherent qualities of smoothness, detail, and balance. Similarly, try violinist Hillary Hahn's performance of Vaughan Williams' *The Lark Ascending* [Sir Colin Davis, London Symphony Orchestra, Deutsche Gramophon] and note carefully the 4S's ability to capture Hahn's impressive technique, which strikes a knife-edge balance between sweetness of tone and incisive articulacy. Once again, the 4S simply supplies just what the recording demands—nothing more and nothing less.

One final sonic characteristic of the 4S bears further mention: its wonderfully immersive quality of overarching coherence—a quality I also observed in Noble's Kaiser 10 CIEM. Though difficult to put in words, this quality of coherence makes all the difference between hearing 'a nice collection of high-quality drivers attempting to play music' and something much better: a CIEM that transports you deep into the interiors of recordings, allowing each to define a listening environment all its own.

How did the Noble 4S fare in comparison to its more costly sibling, the Kaiser 10, or even to the more costly JH Audio Roxanne? Surprisingly, it held its own and then some. In fact, one could make a case that the 4S is more accurately balanced than either of the more costly units. In comparison to the 4S, the Kaiser 10 offers a noticeable touch of bass lift, subtly rolled-off highs, and perhaps a slightly higher degree of midrange articulation and definition. The JH Audio Roxanne, in turn, makes for a more difficult comparison because it offers user-adjustable bass output levels. With bass levels turned all the way up, the Roxanne delivers an overly prominent low-end response, but with bass levels turned down, the Roxanne still shows at least some degree of mid-bass emphasis relative to the 4S. Like Noble's Kaiser 10, the Roxanne perhaps offers heightened levels of midrange articulation compared to the 4S, although the Roxanne's extra articulation is undercut by a subtle 'burr' in its upper-midrange response. In the end, the 4S's sheer neutrality and engaging smoothness enable it to stand tall in comparison to far more expensive CIEMs.

And what about the effects of the silicone earpieces? Simply stated, the 4S made me a believer in silicone earpieces. Because silicon earpieces can flex in much the same way as our ears do, I found them to offer a better and more comfortable fit, a more complete in-ear seal, and even higher levels of noise isolation than that offered by acrylic earpieces (up to 9dB more isolation, according to Noble Audio). The only downsides are that silicone earpieces do cost a bit more than acrylic ones, and take some getting used to until listeners master the appropriate techniques for inserting and removing the flexible earpieces. Noble has also figured out how to make silicone earpiece in different colours and with

## TECHNICAL SPECIFICATIONS

**Type:** Three-way, dual-bore, quad-driver custom-fit in-ear monitors with flexible, silicone earpieces

**Driver complement:** An array of four balanced armature-type drivers per earpiece, comprising two bass drivers, one midrange driver, and one high-frequency driver

**Frequency response:** Not specified

**Impedance:** <30 Ohms

**Noise isolation:** Up to 37 dB (or 9dB better than typical acrylic earpieces)

**Distortion:** Not specified

**Sensitivity:** Not specified

**Accessories:** Detachable ~1m signal cable with industry-standard 2-pin connector, cleaning tool, rubber straps, owners card, and rugged watertight hard-shell carrying case

**Weight:** Not specified

**Warranty:** Two (2) years, parts and labour

**Price:** Noble Model 4 universal-fit version: £300, or \$450  
Noble Model 4C CIEM, acrylic earpiece version: £450, or \$699  
Noble Model 4S CIEM, silicone earpiece version: £630, or \$999

**Other:** Noble offers a special Ownership Transfer Service where, for a \$250 fee, it will re-manufacture earpieces for an existing set of Noble CIEMs to fit a third party owner who has purchased a set of Noble CIEMs second hand. To our knowledge, no other CIEM maker offers such a program.

**Manufacturer information:** Noble, 19 W. Carrillo St., Santa Barbara, CA 93101

**Tel:** +1 (805) 886-5255

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Noble Audio's 4S CIEM it is at once accurate and transparent, yet engaging and easy to enjoy. Over time, the 4S has become the go-to reference I turn to when I want to know how a recording really sounds; but it is also the CIEM I look for when I want to immerse myself fully in my favourite music. What could be a stronger recommendation than that? +



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# Metrum Acoustics Pavane DAC

by Jason Kennedy



**M**etrum has always done things a bit differently. For a start, all its products are NOS (non oversampling) types, which removes a stage of filtering, and they all have ladder DACs built with discrete components designed rather than an off-the-shelf chip. From these facts alone, you know that Metrum's founder and designer Cees Ruijtenberg is not the type to follow the crowd: his is a path rather less well trodden, and with the Pavane he has gone further.

The Pavane uses an FPGA-based forward-correction module to overcome the switching noise that undermines the linearity of ladder DACs at low levels. Essentially, it processes both MSB (Most Significant Bits) and the LSB (Least Significant Bits) in the same top half of the converter. This means the Pavane increases the level of the LSBs prior to conversion and sends 12-bits to each DAC module, which means that the lower level or Least Significant Bits have the same signal-to-noise profile as the MSBs. Levels are then corrected in the analogue stage so that you get the full 24-bit

depth with maximum linearity. It's not simple, but it seems to work – and rather well at that.

The Pavane, which incidentally is Metrum's top model, is a very nicely built piece of audio engineering, and has a machined aluminium front and sides, topped by black glass. I don't recommend using it to keep your coffee warm, but it has a distinct coffee-table look. Input buttons are arrayed on the front next to an orange light that comes on if no signal is present on a given input. The sockets on the back consist of AES/EBU, USB, optical Toslink, and coaxial on both RCA and BNC connections. I was surprised to find a rather nice but small remote control featuring just the one button in the box that changes the input. The DAC's analogue outputs are on RCA phono and balanced XLR, the Pavane being a true balanced converter.

Inside the box there are a lot more parts than usually encountered in a DAC, most obviously you have two ladder DAC boards each supplied by its own dedicated mains transformer and power supply. Elsewhere there is a USB receiver, the FPGA chip where the mathematical magic goes ►

*“The Pavane like other Metrum DACs is incredibly revealing of the elements in the music that convince you there was a living, breathing, and exceptionally talented musician in a studio or on stage at some point.”*

► on, and a Lundahl transformer for summing the differential output of the DACs prior to the single ended output stage. There is also a third transformer for these elements. All in all it's a comprehensively engineered piece of kit that eschews the bells and whistles of Bluetooth, network streaming, and volume controls in an attempt to be the best digital to analogue converter that Cees could produce. And given that his more affordable DACs such as the Octave and Hex are pretty stunning, this is a promising start.

The only missing bell/whistle that some might begrudge is the ability to convert DSD. How much of an issue this is will depend on your enthusiasm for that format. The Pavane is a fully PCM 24/384 compatible device, and it doesn't need fashionable formats or upsampling to deliver the goods; it probably achieves its goals by avoiding them.

The Pavane like other Metrum DACs is incredibly revealing of the elements in the music that convince you that there was a living, breathing, and exceptionally talented musician(s) in a studio or on a stage at some point in the past. What makes a product good in this respect is dynamic and temporal linearity; a bit of low level resolution doesn't hurt either, but this isn't as important as those linearities in creating the illusion of musical vitality.

The majority of my listening was done via the USB input, which I connected to a Melco N1A digital transport with a short run of Vertere D-Fi USB cable. Previous experience with the Melco has suggested it sounded more real and dynamic via its Ethernet output, but the Pavane proved that the USB output is pretty damn entertaining too. And usefully, the Melco worked happily with it from the off as there's no need for special drivers as can be the case with some USB DACs. Spinning the very entertaining version of 'Billie Jean' by the Civil Wars [*Unplugged on VH1*, Sensibility Music] I was struck by the atmosphere from the crowd and the easy yet precise



timing of the playing. There's very little in the way of hash or grain to the presentation and a lot in the way of immediacy. I also played Patricia Barber's 'Company' [*Modern Cool, Premonition*] shortly after spinning the vinyl which is a tough act for any digital product to follow, and while it wasn't quite as relaxed or architectural in imaging terms it was fast, taut, and the dynamics were probably better. The drumming on 'Mourning Grace' from the same album was nothing short of phenomenal.

Playing a variety of pieces I was struck by the variation between them, as the Pavane picked out the nuances as well as the big changes that happened in recording techniques over the years. Arvo Pärt's *Fratres* [Naxos] has a huge acoustic and encourages serious replay levels, such is the power and beauty of the piece. Another large-scale piece, 'Hot Lips' by the Hot Club of San Francisco [*Yerba Buena Bounce*, Reference Recordings 24/176.4], can often beguile with its presentation but fail to make a musical connection. The Pavane gives you the scale, but focuses on the playing, and makes it clear that the rhythms are what the original Hot Club were about. The captivation factor of this and other pieces is exponentially higher than usual – with the Pavane, it's quite a distraction. ►

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► I had an Ayre QB-9DSD DAC at the same time and it too was very impressive, but not in the same way. The Ayre sounded incredibly natural, and made instruments and voices seem really real. But the Pavane made you want to play more music largely thanks to a stronger sense of pace. I also tried it with a coaxial source. The Naim UnitiServe has just such an output, which I harnessed to the Metrum with a length of Chord Co Sarum Super ARAY (which helped matters quite significantly). This combo had a more powerful and similarly timely sound that was slightly stronger in the bass, equally enjoyable, and I could have carried on with it had I not wanted to hear a piece that was on the Melco. This proved that the USB connection and/or source was the more engaging of the options available. The UnitiServe, it has to be said, is not really designed to be used this way, and best results will be had via its network output – but it's certainly no slouch.

Hopefully I have given some idea of the Metrum's abilities to beguile the listener. But it's worth mentioning that this DAC is also extremely resolute. Few converters can deliver fine detail better at the price; reverb, therefore, is very well served, and this DAC provides excellent depth and scale of image. This is something that became obvious with James Blake's 'The Wilhelm Scream' [*James Blake*, R&S], which really came into its own with the Pavane. It normally sounds good, room filling, and impressive, but it often doesn't reach out and grab you so effectively.

There I am being distracted by emotional communication again! But ultimately that's what music is, a way of saying things that words cannot hope to convey, and that's what the goal of all audio equipment should be: to make that message as clear and intelligible as possible. The Metrum Pavane does this significantly better than anything at the price and quite a lot of rather pricier alternatives to boot. +

## TECHNICAL SPECIFICATIONS

**Type:** Non oversampling DAC. Forward (FPGA) corrected, four DACs per channel in differential mode

**Digital Inputs:** One AES/EBU, two Coaxial (BNC, RCA), one Toslink, and one USB.

**Analogue Outputs:** One stereo single-ended (via RCA jacks), one balanced (via XLR connectors)

**DAC Resolution/Supported Digital Formats:** All PCM from 44.1KS/s to 384KS/s with word lengths up to 24-bit

**Frequency Response:** 1Hz - 20 kHz -2.5 dB. 44.1 kHz sampling  
1Hz - 65 kHz - 3dB .192 and 384kHz (USB)

**Distortion (THD):** 0.01%

**Output Voltage:** RCA : 2 Volts RMS, XLR: 4 Volts RMS

**User Interface:** Metrum remote control for input selection

**Dimensions (HxWxD):** 85 x 440 x 320mm

**Weight:** 10kg

**Price:** £3,849

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# Focal Sphear earphones

by Alan Sircom

**T**he name is a play on words, and torture on a spell-checker. Focal's Sphear earphones are 'SPHerical' in shape, they follow Focal's 'SPirit of Sound' concept, you 'HEAR'

good sounds through them, and they go in the 'EAR'. Hence 'Sphear'. And yes, I did play Burning Spear through them. Well, it was either that or Spear of Destiny.

Focal has been making headphones for several years, joining the steady stream of loudspeaker manufacturers putting their acoustical nous to the in-head world. But Sphear is the company's first thrust (see what I did there?) into the universal-fit earphone market, and it has priced Sphear very aggressively, at £100. It has also recognised that universal-fit earphones at this level (as in, not custom-fit models) are more commonly used on the move, so Sphear is an easy 16Ω load and, at 103dB, efficient enough to run well from iThings and Androids. Sphear also includes an omni-directional microphone for calls.

The company is said to have spent two years developing Sphear; not simply for sound, but because Focal suggested most earphones are not built for comfort. I tend to agree – being contrary, one of my ear canals is 'dinky' and the other 'kinky', and finding off-the-shelf earphones that fit both equally well can be difficult (RHA scores well for me, here). Focal seems to have addressed this problem well, and Sphear sits comfortably in both ears without long-term stress or strain. The box comes complete with silicone and Comply-style memory foam tips for small, medium, and large ears, so it is taking care to provide a good array of options for listener sound and comfort (from personal experience, my advice here is don't just assume your ears have the same S, M, or L fit, and you may find one lug 'ole slightly larger than the other).

Focal also claims to have built Sphear in a manner akin to a loudspeaker, albeit one with a single, 10.8mm electrodynamic drive unit sitting in the matt-black ABS housing. It is a bass reflex design, with the port rear-firing into the stainless-steel outer ring and grille. A gloss black acoustic chamber sits in the ear, with a one-piece port that enters the ear canal (covered by an appropriate tip). There is an in-line microphone on the left channel and the two channels meet in a custom Y-connector that has touch-sensors for phone and music controls, and is shaped to look like one of Sphear's earpieces, and there's a metre of cable between that and 45° entry mini TRS jack. I would prefer the cables to be slightly more no-tangle than supplied. Anatomically speaking, ►



*“The company is said to have spent two years developing Sphear; not simply for sound.”*

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*“Sphear is an elegant and extremely comfortable design.”*

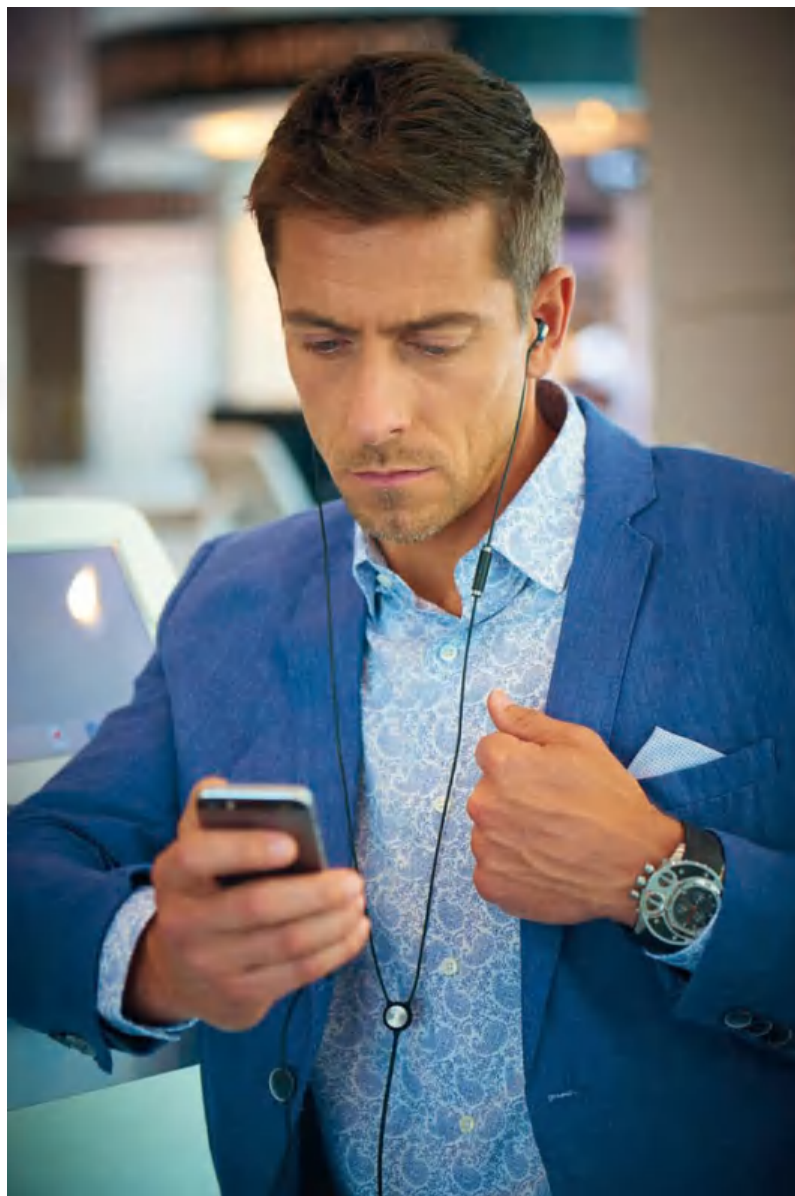


► the bulk of the outside of Sphear is designed to fit in the concha of the outer ear without resting on the crus helix, with the yoke of the cable outlet fitting between the tragus and antitragus. In other words, it is shaped to fit the ear, but doesn't press against any of parts of the outer ear. Clever.

Along with the ear-tips, Sphear also comes with a small zip-up clamshell case, and an adaptor for double-jack in flight mode. Tellingly, it does not include a full-sized jack-plug, emphasising the 'on the move' aspects of the design. In sum, Sphear is an elegant and extremely comfortable design, and well executed for the money.

If you ever wanted to dispel the notion that earphones don't need running in, give the sceptic a pair of new Focal Sphears, and check back after a few days of constant playtime. Their balance doesn't change particularly, but the way that tonal balance integrates is completely different. Sphear has been designed to deliver bass that cuts through the noise of the outside world, and when new out the box, that bass is dominant and wayward. A week later, it still has a distinct 'muscular' bass emphasis, but now that bass is integrated, controlled, and even taut.

As described earlier, naturally this was time for some Burning Spear [Marcus Garvey/Garvey's *Ghost*, Hip-O/Island]. The first play (a few hours into the run-in process) was disappointing. Where was this cornerstone of 1970s reggae? It sounded slightly like a tribute



act was mangling the album. A few days later, and order was restored; the bass could be nodded along to in that lazy way you do when listening to good reggae and fine dub. The sound was deep, mean, growling, and visceral. The kind of bass you can get your teeth into. This is never going to be a bass-light earphone, but once run in, the bass doesn't impose itself when not called upon to do so.

Away from the bass, Sphear has an extremely enjoyable tonal balance, with a distinct absence of anything hard, or harsh in the top end. Once more, the running-in process fills in a slight thinness in the midrange over the course of a day or so, and after that the overall sound becomes chocolatey rich and approachable. It's extended, although not too extended in the top-end; this is probably a good thing, as earphones at this level can be divided into those that are too rolled off, or those that seem to have a 'let me scream your treble' ►



*“Sphear doesn’t make that music connection at the expense of correct objective performance. It just makes music sound enjoyable.”*

► detail at you’ balance at the price. Double the cost of Sphear and there are earphones that manage to add HF detail without HF brightness, but in its price range, Focal’s Sphear is at something of a Goldilocks spot. As evidence of this, and to continue to flog a dead comedy horse, I listened to Rush’ ‘The Spirit of Radio’ [*Permanent Waves*, Mercury]; Alex Lifeson’s guitar intro is extremely fresh and dynamic, but Sphear manages to tail off just before Geddy Lee’s vocals go into full screech mode.

It’s extremely dynamic, too. Not ‘effortlessly’ so, in the manner of a good pair of CIEMs or a decent set of loudspeakers, but in a way that

makes Gregory Porter’s voice just perfect on ‘No Love Dying’ from his *Liquid Spirit* album [Blue Note]. His rich tonal range and his vocal articulation come through well on the Sphear, clearly delineated from the slightly close mic’d piano (which can prove claustrophobic on headphones, CIEMs, and earphones). It’s the sound of a vocalist at the top of his game, with all the subtlety and tonal shading that demands. I don’t think you are going to find better from a similarly priced earphone, and to find a loudspeaker that replicated this dynamic contrast with equal skill would buy you a lot of Sphears.

There is a nebulous term that rarely crosses the Rubicon. “It sounds so musical” is one of those terms that pops up in audio equipment reviews but rarely appears in headphonista write-ups. The cynical question is “as opposed to what?” If an

earphone isn’t musical, what is it for? But there are degrees of ‘musicality’, from something that sounds tonally correct but musically drab, to the other extreme where everything sounds like a party, but its basic parameters are way off kilter. Focal’s Sphear treads an even path between these two extremes: it’s extremely engaging to listen to in a purely musical manner, and you find yourself lost in the music. However, Sphear doesn’t make that musical connection at the expense of correct objective performance. It just makes music sound enjoyable, whatever music you ultimately enjoy.

What I like most about Focal’s Sphear is it’s an ‘honest’ product. It’s keenly priced – if it were twice the price, it would go up against two-way designs with balanced armatures and more far-reaching treble. But rivals with two-way balanced armatures at the price of Sphear just don’t sound as good as Sphear. Bass boost aside, Sphear’s few sins are those of omission rather than commission, and that’s a rare gem at this price, whether from headphones, earphones, or loudspeakers. But most importantly, Sphear sounds enjoyable... and that’s what music is supposed to be about after all.

In a world of high-end audio, where some of the best things in life cost as much as the cost of a car multiplied by the cost of an even bigger car, it’s really, really satisfying to have something to recommend that can be bought and enjoyed by real people. Focal’s Sphear may be hard on spell-checkers, but it’s very easy on the ears. Enjoy! +

## TECHNICAL SPECIFICATIONS

**Type:** one-way universal-fit earphones

**Drive unit:** 10.8mm electrodynamic  
mylar

**Microphone:** Omnidirectional

**Frequency response:** 20Hz–20kHz

**THD+N:** <0.3% (50Hz–10kHz, at 1mW)

**Impedance:** 16Ω

**Sensitivity:** 103dB (SPL, 1mW @ 1kHz)

**Weight:** 15g

**Price:** £100

**Manufactured by:** Focal

**URL:** [www.focal.com](http://www.focal.com)

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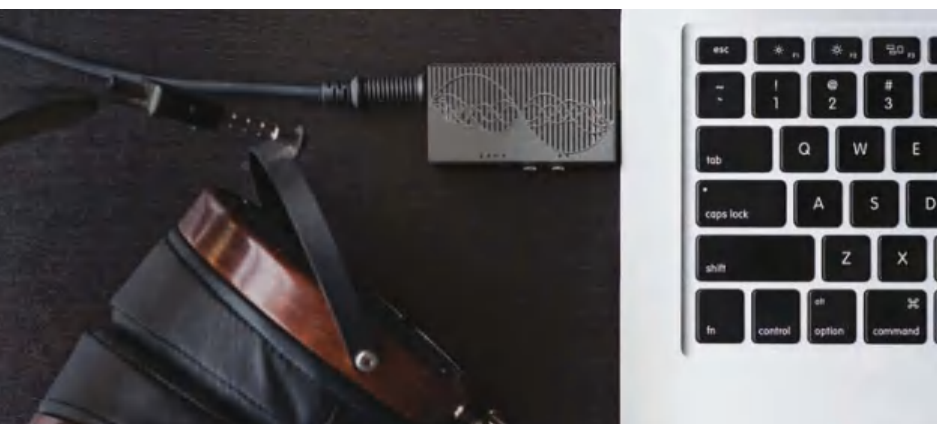
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What was the value of advance orders for the Geek Out V2?

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- B. \$345,000
- C. \$3,450,000

To answer, please visit LH Labs dedicated competition page at <http://lhlabs.com/hifiplus>. Alternatively, send your answer on a postcard (including your name, address, and contact details) to "LH Labs Competition, 920 Reserve Drive #160Roseville, CA 95678, USA". The competition closes on November, 5th 2015.

### Competition Rules

**The competition will run from September, 3 2015 until November, 5 2015.** The competition is open to everyone, but multiple, automated or bulk entries will be disqualified. The winner will be chosen at random from all valid entries, will be contacted via email (where possible) and their name will be published in the magazine. The Editor's decision is final and no correspondence will be entered into. Absolute Multimedia (UK) Ltd. is compliant with the Data Protection Act and UK laws apply. Our policy is such that we will not pass on your details to any third party without your prior consent.



## EQUIPMENT REVIEW

# Cambridge Audio Azur 851N streaming DAC

by Jason Kennedy



**T**he world of audio streaming may be split between those who are committed to keeping the signal as pristine and unfettered as possible, and those who'll take the easier option, and take up a remote control, whatever the ensuing compromises in quality. But at the end of the market that Cambridge Audio inhabits, things are clearly rather different. As this range-topping streamer suggests, Cambridge caters for both those music lovers for whom ease of access and avoiding cables are apparently more important than sound quality, and those who want serious sound delivery, regardless of the impediments. Cambridge does, however, realise that both such people are not ready to don a hair shirt and sit on the spiked throne of audiophilia; the Azur 851N is for those who still want easy access and as many features as you can fit on the box.

Even at a fundamental level, the Azur 851N does more than most. A wired or wireless network streamer, a DAC, and a digital preamplifier are the core features, but you also get Airplay, Bluetooth (with an optional dongle), as well as digital outputs – almost a unique feature among streamers. These are

all on balanced and single-ended connections. Furthermore, the Azur 851N can access internet radio, has a new dedicated Connect control app, and will stream the world's favourite music service (Spotify) via its sonically beneficial (albeit not free) Connect service. The 851N upsamples everything to 24-bit/384kHz, and can stream from your library with or without wires, or you can plug in your PC and push signals through its USB input. The latter seems like overkill when you have the option to stream from the network, but it's an easier way of getting computer audio up and running.

The Azur 851N is also the best-looking piece of Cambridge Audio yet. Its anodised aluminium casework is to be found across the Azur 851 range and gives it a very classy look for a product at a sensible price. The remote handset is a button festooned, reading glasses inspiring, full system driving beast, but does offer luxuries like digital filter switching among other niceties. The LED display on the player is the biggest and nicest yet encountered; album artwork looks superb, and moving around the menu system with the chunky rotary control is quite a fizz inducing experience. ▶



► The new Connect app is not a million miles away from Linn's Kinsky, inasmuch as it lists libraries on the left and the playlist on the right - a sensible design that's intuitive to use. One small fly in the ointment is that you can't save playlists, apparently because the 851N can be used with so many disparate sources - USB, Bluetooth, network etc - whereas most network streamers stick to a single library. Another foible is that the app works best if you tell it not to let the tablet sleep, but this means that batteries will drain if you don't turn the thing off manually. If you put it into the 'allow sleep mode', it's necessary to find your place in the library from the top when you wake it; something for Cambridge to consider for a future update one hopes to see.

The fact that you can search for internet radio stations by name on Connect is a big improvement over the need to search via location or genre, as is the case with most systems. It's even easy to preset stations from the app once you've found the right button, but the fact that selecting radio as the source brings up a blank list in the first instance could be improved by making 'presets' the default. The Azur 851N's interface adds a "more stations like this" option to the radio features that isn't on the app.

You can use the Cambridge Azur 851N as a fixed output source or a digital preamplifier simply by changing its settings; in the latter mode, it has a relatively short 30 position volume range. Inputs are available in pretty well all digital flavours, including AES/EBU and USB A for external hard drives, while attached drives can be accessed from the Connect app, including drives formatted for Mac, another first in my experience.

The question that has to be asked, of course, is whether all these features get in the way of the sound. The short answer would appear to be no. But it's pretty much impossible to separate the 851N as a whole from its potential without the widgets. As a whole, it sounds pretty good - about as refined

and revealing as you would expect at the price from something with a far simpler array of options. It combines good drive with a clean, wide bandwidth and neutral presentation, which means that you can hear plenty of detail in the context of an engaging sound. For the most part I used it with the Ethernet output of a Melco N1A digital transport, a rather better source than it might be expected to partner, but one that gave it every chance to shine. And with Sam Amidon's 'Walking Boss' [*Lily-O*, Nonesuch] that's what it did: the pace of the rhythm section was well-defined thanks to strong bass notes and clear cut leading edges. It kept me listening too, which is always a good sign, but deadlines wait for no reviewer, so I pressed on and chose Daniel Barenboim's *Beethoven For All*, Symphony No.7 in A, Op.92 [24/96, Decca] to see what it could do with the opener of this powerful piece. It could do the scale and drama certainly, string tone could be sweeter, and the mids and highs a little more open and refined, but ultimately, nothing grated. There's a very slight sense of grain when viewed through the magnifying glass of a high end system, but surprisingly little all the same.

As the 851N has three filter settings, I gave these a spin and discovered that the first, linear phase, has the sharpest definition but is a little thin and 'digital'. Minimum phase has always been the favourite on previous Cambridge designs and remains so here, it has the best timing and the best compromise, in tonal terms, between linear and the relatively warm sound of the 'steep' filter. It's nice to have these choices though, and different systems, tastes, and music types will mean that opinions will vary, perhaps even from track to track.

While the 851N cannot stream DSD, it can process DSD64 through USB. However, Cambridge currently neglects to mention this, anywhere. Regardless, I thoroughly enjoyed the version of 'Goodbye Pork Pie Hat' on Jeff Beck's *Live at Ronnie Scott's* [Eagle Records]. This came through in full scale with plenty of power and detail, demonstrating that it's not the ►

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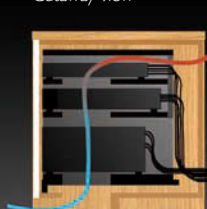
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Given that the Melco also has a USB output, I contrasted it with the network connection and the result came out in favour of the USB, but only just. Both have similarly strong imaging capabilities, but the USB has the edge in terms of timing, a result that could be down to the cables used, which are far from identical. Oddly, I had the opposite result when making this comparison on my regular streamer/DAC, the Resolution Audio Cantata. Comparing these two very differently priced streamers with a network connection reveals that the Cambridge is fundamentally less dynamic and has higher noise; but then you'd hope that the £5k difference would buy you more than nicer metalwork.

I also gave the onboard volume control a try in an effort to see whether the Cambridge could be successfully used with a power amp alone. The result was pretty decent for a digital volume control: it didn't seem to have a compressing effect on dynamics, and the treble remains much the same rather than the distinctly grainy texture you can get with other systems. There are clear advantages to using a really decent preamplifier, but given the price point of the source, this is not a likely combination, and you would probably have to spend at least the same on a preamp to get a distinct upgrade over the onboard controller.

Back in the full system, I carried on enjoying a variety of pieces, Jean-Efflam Bavouzet's rendition of the Haydn's piano sonatas [Piano Sonatas Vol 1, Chandos] being one highlight. Here the piano has shine without glare, and the playing is delightfully nimble, almost as punctual as Bach, but with a lighter touch.

The Cambridge Azur 851N is a spectacularly well equipped piece of kit. It's pretty much all the source you need if your music is in an unpackaged or media file state. Even if it isn't, you just need a transport; and if the USB results are

## TECHNICAL SPECIFICATIONS

**Type:** Solid-state network streamer, DAC, digital preamplifier

**Analogue Inputs:** none

**Digital Inputs:** Two coaxial S/PDIF (via RCA jacks), two TOSLink, one AES/EBU, one USB B, three USB A

**DAC Resolution/Supported Digital Formats:** FLAC/WAV/MP3, etc. Sampling rate for D/A conversion 384kHz/24 bit, DSD64 (DoP)

**Music services/Wi-Fi inputs:** Spotify Connect, Bluetooth, Airplay

**Analogue Outputs:** One stereo balanced (via XLR connectors), one stereo unbalanced (via RCA jacks)

**Digital Outputs:** One coaxial S/PDIF (via RCA jack), one TOSLink, one AES/EBU

**Frequency Response:** Not specified

**Distortion (THD + Noise):** Not specified

**User Interface:** 4.3inch display (on main unit), Cambridge Connect application software for iOS, Android

**Dimensions (HxWxD):** 115 × 430 × 360mm

**Weight:** 8.1kg

**Price:** £1,200

**Manufacturer:** Cambridge Audio

**URL:** [www.cambridgeaudio.com](http://www.cambridgeaudio.com)

anything to go by, the 851N's DAC is up to the job and then some. Features, it seems, are no barrier to sound quality, but are a boon to flexibility, and that's almost as important in the fast moving world of streaming audio. +





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# Gigawatt PC-4 EVO power conditioner

by Jason Kennedy

**N**ot satisfied with taking over the UK building trade, Poland now has its sights set on your audio system, and Gigawatt, with its range of power products, is in the vanguard. In 1998, Adam Schubert co-founded Power Audio Laboratories in Zgierz, a small town just to the North of Łódź in central Poland. In 2007, Schubert divided the company's R&D and production facility, creating the Gigawatt brand in the process.

Gigawatt makes power cords, strips, filters, and five conditioners of which the PC-4 EVO is the biggest with 12 Schuko outlets, which is the norm in Europe. The PC-4 EVO is supplied with one of Gigawatt's high quality mains cables to connect it to the wall, as well as a Schuko plug.

The PC-4 EVO doesn't use big transformers to isolate its outlets or regenerate the mains. Rather, it has a multi-stage, parallel filtration with each quartet of outlets having its own filtering. The sets of outlets are marked for digital, analogue, and high current products, and the filtering is designed for those load types. The device is capable of supporting a continuous 25A load (70A peak) "if the power line allows", which is greater than any audio component needs, but nevertheless does mean it can hold a current reserve for impulse loads, effectively working like a big capacitor. The review sample had a DC Offset blocker onboard, which is an optional extra. The front panel display shows incoming voltage level, and where I live, this is quite high; often over 240V and sometimes up to 246V.

I used one of Gigawatt's chunky stainless braided power cables with a 13A plug on and hooked it up the power supply on a Rega RP10 turntable

in an otherwise unconditioned system. The effect was to decrease noise and open up the soundstage, making Joni Mitchell's voice [Mingus, Asylum] and the layers in the mix clear-cut. The soundstage also became much more solid and three-dimensional, even as it was pretty strong in the first place. Additionally, such an arrangement fleshed out the sound of the musicians, so that the bassist, Jaco Pastorius, seemed 'behind' Joni and her guitar.

These positive results suggested that I connected more products to the Gigawatt, starting with my Trilogy 907 phono stage, the next element in the audio chain. This dropped the noise floor further and increased stereo solidity, emphasizing the character of the studio acoustic. The extra clarity produced louder elements, too. It draws attention to the string texture of the acoustic guitar by producing an ability for percussive string sounds to stop and start more quickly, and less 'smearing' means faster transients. And that means better timing, and greater involvement, significantly greater. ▶



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*“I have reviewed a few conditioners and regenerators over the years... but pound for pound, I don’t think any have come close to this.”*

► I also tried the Gigawatt on a pair of PMC twotwo.6 active speakers paired with the Velodyne DD+10 subwoofer, both of which have Class D power amps onboard. Here the effect was more dramatic, the conditioner managing to make both sound considerably more refined and much more like class A/B in character. Consequently, it was possible to play music at higher levels and hear a lot more of the musical detail thanks to the reduction in grain. Anyone using Class D amplification should investigate conditioning - you will be surprised at the effect.

I was a little reluctant to try the Gigawatt on my ATC P1 power amp because conditioners that work on high power amplifiers are like gold dust; in fact, the only one I’ve found (Isotek EVO3 Super Titan) costs a bundle and makes most power amps seem compact. But I was glad I did as the result was fascinating and not dissimilar to that achieved with the Class D amps. This time, however, the transition was from A/B to a Class A sound, so much so that I lost many hours to the charms of the resultant effects. Ultimately, connecting the Gigawatt to the ATC P1 power amp gave the sound an ease and finesse; an effect you would have to pay significantly more for than the price of the power amp and conditioner combined. Immensely revealing, beautifully timed, tonally rendered, and totally fluid, the effect was like listening to a powerful valve amplifier with very little in the way of valve character. The music became engrossing, and tracks like the bass heavy ‘Limit To Your Love’ [James Blake, R&S], which often overpowers the room, became pure and radiant.

I also tried the Gigawatt with digital sources, the Melco N1A NAS/transport via an Ayre QB-9DSD, granting the music a vinyl like quality – and I’m not talking about pops and clicks; rather, the music sounded cleaner and more fluid, and could be played at higher levels without discomfort, with brass still blasting out when it should. Connecting the already extremely natural sounding Ayre produced bigger imaging, full-scale soundstages with fine detail, and gave texture to bass lines that had sounded amorphous while making lyrics easier to understand.

Most of my listening with the Gigawatt had been with an easy-to-install Supra Lo-Rad cable. But out of interest, I switched to the Gigawatt cables, and they put me behind the desk in the studio; now the musicians were there to be reached out and touched.

I have reviewed a few conditioners and regenerators over the years and always had positive results, but pound for pound I don’t think any have come close to this. The Schuko factor is a pain, but it might well be something to do with the final result, so it’s a pain with gains in terms of resolution, finesse, and musical coherence. With the Gigawatt, hearing is believing if you want to take your system into another league. +

## TECHNICAL SPECIFICATIONS

**Type:** Multi stage parallel mains power filtering conditioner

**Power outlets:** 12x G-040 silver plated Schuko

**Maximum output power:** 3680 Watts

**Maximum current load:** 16A

**Absorbed impulse current:** 22000A

**Line voltage:** 220–240V/50–60Hz

**Accessories:** 1.5m LC-2HC power cable

**Dimensions (HxWxD):**

181 × 483 × 476mm

**Weight:** 20.5kg

**Price:** €9,100

**Optional DC blocker:** €900

**Manufacturer:** PA Labs Company

**URL:** [www.gigawatt.eu](http://www.gigawatt.eu)

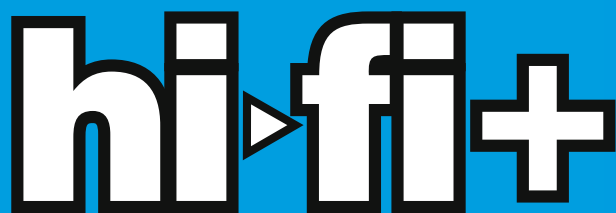
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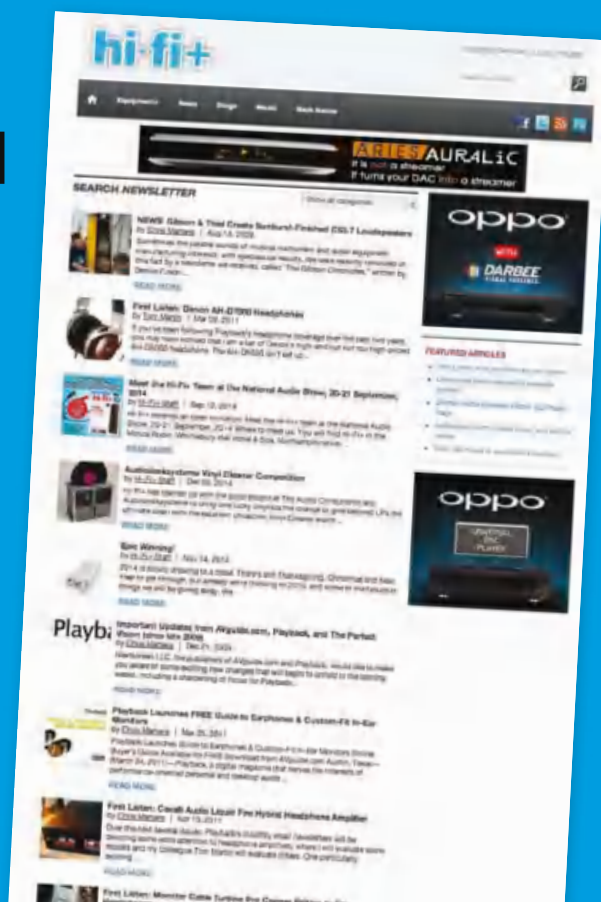




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# hi-fi+ ADVERTISING INDEX

Absolute Sounds.....OBC	Devialet ..... 8, 9 & 79	istereos.co.uk ..... 112	Rocky Mountain Audio Fest 94
Alacrity ..... 88	Elac ..... 43	Karma-AV ..... 88, 104	Select..... IFC
Ambitious Audio Design..... 66	Enjoythemusic.com ..... 108	Kef ..... 7	Signature Audio Systems ..... 32 & 33
Analogue Seduction ..... 111	Ensemble AG ..... 15	Kog Audio ..... 29 & 39	SME Ltd ..... 69
ART Loudspeakers..... 94	Entreq UK Ltd..... 49	Marten..... IBC	Sonata Hi-Fi ..... 113
Audio Cabinet..... 103	Epicuren audio ..... 85	Midland Audio Xchange..... 112	Sound Fowndations ..... 64
Audio Origami..... 91	Flamingo Audio..... 96	Music First Audio ..... 73	Sound Hi Fi..... 91
Audiofreaks ..... 13	Focal JMLabs ..... 5	Music Works ..... 25	Sound Set-Up ..... 44
Basically Sound and Vision ..... 112	Gauder Akustik..... 85	Nordost Corporation..... 62	Spendor Audio Systems Ltd .81
BD-Audio Ltd ..... 112	Graham Audio ..... 93	Note Audio ..... 93	studioAV Ltd..... 113
Brian & Trevor's..... 19, 112	Hegel..... 56	OPPO Digital UK Ltd ..... 11	The Audio Barn ..... 113
Burmester Audiosysteme GmbH ..... 74	Hidden Systems ..... 112	Oranges and Lemons..... 111	The Audio Consultants . 36, 51
Chester Group..... 70	HiFi Sound ..... 113	Origin Live ..... 99	The Bespoke Audio Company ..... 111
Choice HiFi..... 23 & 112	High End Cable ..... 55	Prime Phonic..... 58 & 59	The Chord Company ..... 40
Cloney Audio ..... 85	Highend Headphone Shop/ HiFi Lounge ..... 112	Questyle Audio ..... 103	The Right Note ..... 17
Crystal Cable BV ..... 2	Hifi Headphones..... 104	Raidho Acoustics ..... 60	V'Audio Hi Fi Consultants... 113
Decent Audio..... 76 & 81	HMF Solutions..... 99	RCM Audio..... 111	Westone..... 96
	Infidelity ..... 112	Renaissance Audio..... 31	
		Rock Solid Sounds..... 113	

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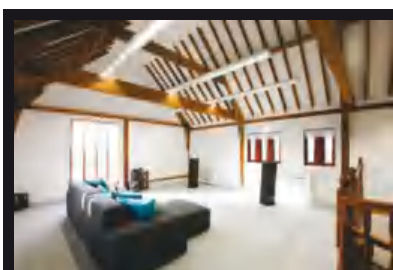
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# record reviews

## How To Read Them

The information contained in the record reviews is presented in the following way. Albums are identified by label and – where possible – serial number. Beneath this you will find one or more icons which denote the available formats for the recording. The first icon refers to the format reviewed.

The ratings at the bottom of each review reflect the reviewer's opinion of the recording quality, and musical merits of the album. You'll soon realise that a great many musically significant albums offer less than wonderful sound. Don't let it put you off! For your information, the scale rates a standard, good quality pop recording as slightly below average.

*This issue's featured reviewers are:*

**DD** – Dennis D Davis

**JK** – Jason Kennedy

**PT** – Pete Trewin

	CD		120g LP
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### Bridges

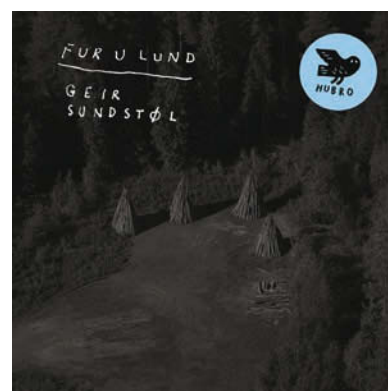
Adam Baldych & Helge Lien Trio  
ACT



The violin is a challenging instrument to use in the jazz space. But not for Adam Baldych. At 16, Baldych was considered a prodigy in his native Poland. Now at the grand old age of 28, he's an accomplished musician, composer, and producer in his own right. *Bridges*, Baldych's second release for ACT, finds him in the company of Norwegian pianist Helge Lien and his rhythm section: an alliance that combines Baldych's own theme of silence blended with e.s.t.-like Nordic Jazz influences.

Baldych has huge range; dry and fragile one moment, powerful and fluid the next. But those contrasts are rarely sharp, as they build and recede in a style that suggests improvisation. Only the title track is fully improvised, and the subtle structure of the other ten pieces would attest to this. With one exception, Baldych composed all the tracks on the album (the exception being an inspired arrangement of Massive Attack's 'Teardrop'). Some of Baldych's tunes have a strong folk influence, while others are more freeform, and a few have a haunting beauty that brings them in line with the stated theme. They all share a lyricism and honesty, however, that makes for engaging listening. The Trio's backing is perfectly pitched to lift Baldych's music to a higher plane. **JK**

RECORDING  
MUSIC



### Furulund

Geir Sundstøl  
Hubro

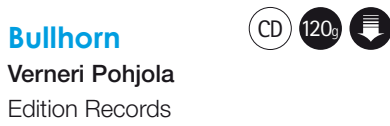


Hubro has a knack for persuading professional backing musicians to make their own albums. Geir Sundstøl is a classic example; the multi-instrumentalist has played on 260 records in the last 27 years. But *Furulund* is his debut solo album. Sundstøl's first love is clearly the acoustic guitar (and variations thereof), not least because his home studio houses a collection of rare instruments, many of which can be heard on the opening track. These include a banjo, lap steel, and sitar, which are combined beautifully.

Keyboard player David Wallumrød, and drummers Elrand Dahlen and Michael Blair (who has performed with Tom Waits, Elvis Costello, and Lou Reed) join Sundstøl here. Their textures, plus with the layers of shimmering, glissando notes from the strings, make for a rich and relaxing listen. The tunes on *Furulund* are linear affairs that dazzle thanks to the great choice of sounds, and the breadth of tonal subtlety is a prime attraction. There's great musicianship here, too, but they are mature enough in their own skills not to turn this into an album of showmanship. It's almost as if Hubro chose the atypically monochrome cover art to avoid the 'book by its cover' listener and find more discerning ears. **JK**

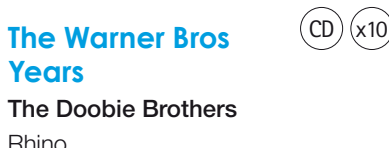
RECORDING  
MUSIC





The work has clear structure for the most part, but 'structure' does not imply 'stricture': the first two pieces on side B give the horn plenty of freedom to noodle, often in a Miles Davis-esque manner. Pohjola's quieter moments are distinctly breathy affairs, and this gives them an intimacy that's not always easy to achieve with the trumpet. Pohjola is a lyrical player, and also knows how to corral a larger ensemble into positive action; this much is apparent on the aptly named closer track, 'The End Is Nigh', where a cello, tenor sax, and fabulous trombone are brought into the mix. The chorus is glorious and makes this track the highlight of an already strong set.

RECORDING  
MUSIC



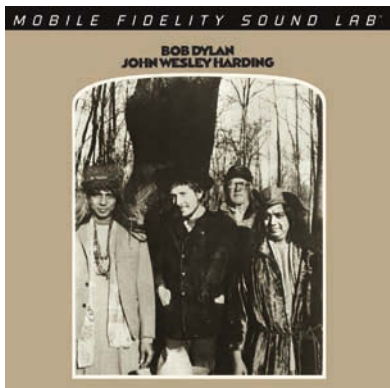
Although the album cover from that eponymous debut in 1971 reveals a posse of black-clad reprobates who played to hell's angels, the music is only slightly harder-edged than classic Doobies and contains the essence of the Pat Simmons and Tom Johnston sound. The next album, 1972's *Toulouse Street*, gained traction thanks to the singles, 'Jesus Is Just Alright' and, 'Listen To The Music'. It was followed a year later by *The Captain And Me*, which cemented the band's reputation thanks to tracks like 'Long Train Runnin"', 'China Grove', and the underrated gem 'Dark Eyed Cajun Woman'.

the voice of an angel, who helped the Doobies make their most successful albums. Although 1976's *Takin' It To*

The commercial highlight of the McDonald era was the triple Platinum *Minute By Minute*, released in 1978. The title track is a killer, and 'What A Fool Believes' is a great song beautifully sung. However, the gruelling album-per-year schedule and endless touring was taking its toll. There was just one more studio album in the band – 1980's *One Step Closer*, which spawned a hit single in the title track and 'Real Love' – and then during the 1982 tour, the inevitable break-up happened, which led to the last album with Warner, their 1983 *Farewell Tour*.

RECORDING  
MUSIC





## Mobile Fidelity

## Bob Dylan

**John Wesley Harding**

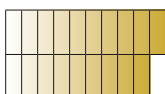
MFSI 2-243

Released in December of 1967, Dylan's eighth studio album saw a stark change of course with its obvious country western influence. Although Dylan had already started recording in Nashville for *Blonde On Blonde*, this new album – recorded after Dylan's recovery from injuries suffered in a motorcycle accident – kicks it up a notch here. Backed by Kenneth Buttrey on drums, Charlie McCoy on bass, and Pete Drake adding steel guitar on two songs, John Wesley Harding sees Dylan trading in the hipster posturing of *Highway 61 Revisited*, and poetic word craft of *Blonde On Blonde*, for lyrics and a sound befitting a Nashville studio.

Dylan completed the album very quickly and records were on store shelves a little over two months after the first taped session. Although Mobile Fidelity did not have access to those tapes, this new version, (mastered by Krieg Wunderlich and Rob LoVerde) is superior to the original LP in every way. Musicians and instruments now have real texture, better tonal accuracy and are fixed firmly in space. Recorded by Nashville veteran engineer Charlie Bragg, *John Wesley Harding* now has a lovely up-front and honest sound. Highly recommended! **DD**

## RECORDING

## MUSIC



## Blue Suede Shoes— A Rockabilly Session

## Carl Perkins & Friends

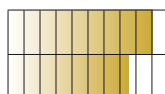
Madfish SMAI P 1032

This is a no-brainer. You get a cute fold out cover with a two 10" LPs, a tribute to a then still vibrant Carl Perkins with Eric Clapton, George Harrison, and Ringo Starr on stage. What else do you need to know? This double LP is from a televised London concert highlighting Perkins' career and was released in 1986 by Snapper Music, the parent of Madfish, which is responsible for this reissue.

Carl Perkins' 'greatest hits' including Blue Suede Shoes, Honey Don't, Matchbox, and Everybody's Trying To Be My Baby are presented here, and anyone familiar with The Beatles' covers of these tunes can appreciate the lineup for this tribute. Ringo gets to sing along with his hero on Honey Don't and Matchbox; Harrison and Clapton are in top form supporting Perkins; and Rosanne Cash checks in with Perkins on Jackson. Unlike most famous guest duet albums, these performers were all there at the same time. Along with Jerry Lee Lewis' *Live At The Star-Club Hamburg*, this is one of two live performances of early rock 'n' rollers that I'd give my left elbow to go back in time to see, and Blue Suede Shoes—A Rockabilly Session is a lot better recorded than the 1964 Lewis session. **DD**

## RECORDING

## MUSIC



## Spoon's Life

**Jimmy Witherspoon**

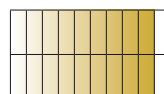
Pure Pleasure PPAN021

Jimmy Witherspoon was a blues 'shouter' with big bands. His style of blues singing became unfashionable as the big bands disbanded, and it was not the focus of attention when blues was 'rediscovered' on the college campus scene of the early 1960s. Witherspoon toured with Jay McShann in the 1940s, and survived the lean years in the 1950s with a modest comeback touring with Buck Clayton. The McShann years are well documented on *Goin' To Kansas City Blues*, a 1957 session on RCA (LPM-1639), but some of his best known recordings team him with Ben Webster and other west coast jazz musicians.

Joining the ranks is Pure Pleasure's new reissue of a terrific session from 1980, teaming Witherspoon with a group of Chicago blues veterans more used to playing with Muddy Waters, Buddy Guy, or Howlin' Wolf. The original on French Isabel Records, like the other 21 blues records released on that label (check out the great Stefan Wirz discography on line), has outstanding sound and the feel of having been recorded in a Chicago blues setting, rather than outsourced to France. Witherspoon fits into the Chicago blues scene as neatly as any jazz line up. This reissue matches the great sound of the original and is not to be missed. **DD**

## RECORDING

## MUSIC





## With A Little Help From My Friends

Joe Cocker

## Audio Fidelity AFZ 209

If there is a roster of perfect rock albums, this masterpiece by Joe Cocker certainly should be considered for nomination. Cocker's style resonated with all the themes of the age. He mixed in a healthy serving of blues (heavily influenced by Ray Charles), all delivered in his gritty Midlands accent, and accompanied by odd bodily gyrations. Cocker reached fame with his cover of The Beatles' 'With A Little Help From My Friends', reaching number one in the UK in 1968.

His performance at Woodstock in 1969, now a YouTube staple, completed his trajectory. This album, released that same year, does indeed include a little help from his friends Jimmy Page and Stevie Winwood, as well as backing from members of the Los Angeles studio musicians nicknamed the Wrecking Crew. Cocker delivers a set of mostly covers, with lots of nods to the Beatles and Dylan, yet makes each song his own—versions that make it forever difficult to realise that Cocker wrote only two of the titles on this album. Mastered by Kevin Gray for SACD, the sound is as good as it's ever sounded unless you have a pristine mono original on EMI Regal. This gem should become a collector's item. **DD**



## Little Girl Blue

## Nina Simone

Analogue Productions APJ 083

Nina Simone is receiving a small share of her due with two 2015 film documentaries, presenting an invaluable extra resource for younger fans who know her only from the many uses of her songs sampled in soundtracks, games, and advertisements. Simone first came to light through her passionate commitment to classical music, and during her early years she used her first recording contract with Colpix to fund her training in classical. That contract came about because of the success of *Little Girl Blue*, her first LP released on Bethlehem. Her early pop music, blended with soul and gospel, took on racial inequality when she moved from Colpix to Dutch Philips in 1964. Her song 'Mississippi Goddam' stirred up considerable controversy, especially in the American south.

This earliest recording shows Simone fully formed, singing among other things, 'Porgy' and 'Don't Smoke In Bed', songs that would become signature pieces for her. Analogue Productions obtained the master tape, and this LP sounds wonderful – instrumental texture and pitch stability superior to the original or any reissue. If you set aside a slight quibble about going with stereo, no Bethlehem reissue has ever sounded this good. **DD**



## Requiem

## Wolfgang Amadeus Mozart

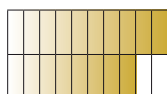
John Butt/Dunedin Consort

Linn CKH 549

The Dunedin Consort's recording of Mozart's Requiem was released on hybrid SACD in 2014 to rave reviews, garnering a Gramophone Choral award and a Grammy nomination. That occasioned the spilling of massive amounts of (digital) ink over the implications of performing a modern reconstruction of the warhorse based on the results of newly published research regarding the first performance of the score about a year after Mozart's death. The stripped back choral force is a fraction of what has often been thrown at the work, and it allows the musical lines to open up in a way lost in many recordings. Twenty voices, including the four soloists, join with 31 instrument players to put this in the modern camp of performance.

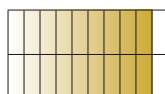
This new release on vinyl eschews the extras included on the SACD, leaving only the 47 minutes of Requiem, which fits comfortably on one LP. The improvements are palpable and in favour of the black disc. The Requiem has not suffered from lack of attention. Nevertheless, this version gets you as close as any to standing at the back door of St. Stevens cathedral in Vienna, watching Mozart's body being sent on its final journey. **DD**

## RECORDING



## MUSIC

## RECORDING



## MUSIC

## RECORDING



## MUSIC



### Gabriel Fauré – Intégrale de l'œuvre pour piano. Volume 3

Jean-Claude Pennetier  
Mirare – MIR275

CD

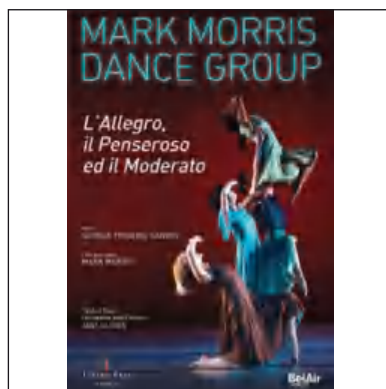
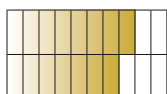
This disc is the third in the series, and represents some of Fauré's great works for piano played exquisitely by Frenchman Jean-Claude Pennetier. Pennetier's talent for appreciating the composer's intentions and skill makes for a wonderful listening experience.

The album's 14 tracks include eight short and sweet 'Pièces brèves', a 15 minute marvel that concludes with one hand playing duplets and the other triplets – not only extremely difficult to achieve, but also unnerving to listen to – but ends with a beautiful cadence, and two Barcarolles (a style of folk song sung by Venetian Gondoliers), the first in a major key, and the other in a minor key. In the first, the pianist is given a beautiful melody that sounds like the fluttering of birds. The minor key Barcarolle is somewhat less song-like and more dramatic.

By playing with the listener and lulling them into a false sense of security, Fauré has a great ability to portray a sense of calm whilst at the same time touching on dramatic effect. And this playfulness coupled with drama is played perfectly.

These pieces are certainly worth adding to any collection of Fauré, or becoming the start of a new one. **PT**

RECORDING  
MUSIC



### L'Allegro, il Penseroso ed il Moderato. – Handel

Mark Morris Dance Group  
Jane Glover  
Teatro Real, Madrid – Orchestra  
& Chorus

BelAir Classiques

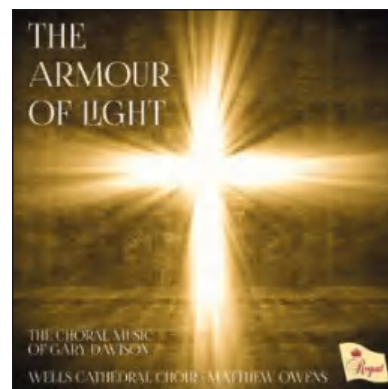
DVD

This Blu-ray disc is a recording of Handel's music based on words by John Milton, accompanied by a video of the Mark Morris Dance Group, a company renowned for bringing together music and modern dance. The group extends and challenges the boundaries of classical music and dance; their boundless energy, enthusiasm, and understanding of the music enhances the musical experience, rather detract from it.

The music, as to be expected with Handel, is Baroque 'easy-listening'. The recording quality is excellent. Each instrument can be placed correctly in a three-dimensional space and not, as is often the case with an orchestra pit, squashed to the point where the resonance of one instrument 'pollutes' another instrumentalists' playing.

The Mark Morris Dance Group are based in New York and have a list of dates of their performances in the US over the next 12 months. As a conservative, classically trained musician I was initially sceptical, yet once again life has thrown me a curve ball in the form of this combination. Highly recommended. **PT**

RECORDING  
MUSIC



### The Armour of Light

The Choral Music of Gary Davison  
Wells Cathedral Choir –  
Matthew Owens  
Regent Records: REGCD452

CD

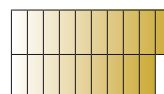
Gary Davison is an American composer, and the Choirmaster and Organist of St Francis Episcopal Church in Potomac, Maryland. He has a close association with Wells Cathedral Choir, and it is fitting that the first disc of his music should be recorded and performed in this beautiful 12th-Century Gothic building.

From the opening track, I was overcome with the beauty and ethereal majesty. Davison includes some gorgeous 'crunchy' suspensions that are long and drawn out before slowly resolving, thus creating dissonance and relief as the resolution occurs. A great introduction to a composer.

'The Banffshire Mass' is an example of Davison's versatility. The opening Kyrie, touches on a plainchant style with the trebles chanting an extended line that is repeated and extended when the men repeat and join with the trebles to complete each phrase.

So many of the pieces on this album are note worthy; go and purchase this disc, you will not be disappointed, and you will be sure to hear much more of Davison in the future. I shall be recommending him to the choirs I sing in. **PT**

RECORDING  
MUSIC







## Der Ring des Nibelungen

Richard Wagner

Chor und Orchester der  
Bayreuther Festspiele –  
Joseph Keilberth

Pan Classics – PC10340

CD ×12

This epic collection of 12 discs is taken from a live mono recording from July 1953. Composed as a three day 'Bühnenfestspiel' (festival of stage play), Wagner took over 26 years to complete the whole work, which consists of no less than four operas: *Das Rheingold*, *Die Walküre*, *Siegfried*, and *Götterdämmerung*. There are few full-scale performances of the operas performed as a complete cycle, perhaps in part because the longest opera, *Götterdämmerung*, lasts approximately five hours.

However, there are some die-hard opera enthusiasts, and equally enthusiastic opera companies, who have staged the cycle, often now referred to as 'The Ring'. The operas are of huge proportions, and they include mythical creatures, heroines, heroes, and gods. Emerging above this all is an ethereal ring which has the ability to grant total dominion over the world. The story follows the various beasts, gods, and heroes as they vie for control and ownership of this magical power.

The concept of the 'Ring Cycle' developed as Wagner became disillusioned with the style of opera that he had been writing up until and including *Lohengrin*, namely the so-called German style. Whilst he wanted to adopt the more romantic Italian

style, it is said that his audiences did not appreciate it. This led him to say that he would never write an opera again 'as I have no wish to invent an arbitrary title for my works, I shall call them dramas...'

In this new operative language, Wagner rejected the arias and recitatives of traditional opera, introducing instead recurring phrases associated with individual characters. This helped the listener identify the character with a specific repetitive thematic identity, something known as 'Leitmotifs' in musicology. While Wagner adopted leitmotifs, others used them before him and he does not make reference to leitmotifs in any of the programme notes associated with this great cycle. However, it is to plain to hear such traits within the operas, and leitmotif can take the form of melodic, rhythmic, and even chord progression themes.

The libretto, also written by Wagner, takes the 13th Century text of the 'Nibelungenlied' – and in particular *Siegfrieds Tod* (*Siegfried's Death*) – as its influence. Mendelssohn noted that the text would make a "splendid finale to a second act". And indeed, the text was the inspiration for Wagner's third opera, *Siegfried*, tells the story of the fearless eponymous boy who asks his adopted family to teach him how to fear. Throughout the tale, the boy is engaged in the race to gain the ethereal ring of power.

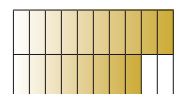
*Siegfried* is a momentous work, and one that is hard to listen to in one sitting! And yet, while reviewing the discs, I found myself gripped and spending many hours late into the

night listening. Initially both the live aspect and age of the recording was difficult to contend with. However, once I was adjusted to the quality of a 1953 mono recording, I found myself taken back to a place before my birth, surrounded by the beauty and drama of these epic pieces.

But why should you bother with a mono recording, in the light of later stereo epics? The Ring is associated in many people's minds with the epic Solti Cycle from Decca, which can be picked up at a very reasonable price. As such, why set the clock back 62 years? Because the back-story here is as fascinating as that of The Ring itself. Post-war Bayreuth was penniless, but what it lacked in funds, it made up for in energy. This is The Ring impassioned, with soloists at their zenith. Few modern recordings can match this. Few can keep up!

Certainly, there is no hiding the fact that they are not the easiest of Wagner's works to sit and enjoy listening to. As Rossini once said, "Wagner has beautiful moments, but bad quarters of an hour." But if anything, Wagner's feat of creating four interconnected operas, composed over 26 years, and purposelessly composed to be performed of successive days, demands sheer appreciation. With this in mind, then and only then can you even begin to imagine his greatness as a composer, writer, and dramatist. **PT**

RECORDING  
MUSIC



## Classic Albums

# Album of the Month: Television: *Marquee Moon*

by Alan Sircom

**T**wo teenage Baby Boomer boys ran away from a private school in Delaware in the mid-1960s, and went on to spark a musical revolution. But Thomas Miller and Richard Meyers weren't the names of Punk Rock revolutionaries, so they became Tom Verlaine and Richard Hell along the way. Their first outing – The Neon Boys – saw Verlaine on guitar and vocals, Hell on bass and vocals, and another Delaware resident, Billy Ficca on drums. But the Delaware of the early 1970s wasn't ready for harsh, angular tracks like 'Love Comes In Spurts' (later reprised on *Blank Generation*, an album by Richard Hell and the Voidoids), so the trio regrouped. Literally.

Moving to New York, they changed their name to Television and joined the art-house, neo-Punk scene (alongside the New York Dolls and Patti Smith). Television quickly gained a following, a reputation, and a string of record deal offers after a residency stint at the famous CBGB club in the East Village. However, Richard Hell left the band as success beckoned in 1975, and was replaced by ex-Blondie bassist Fred Smith who was then joined by guitarist Richard Lloyd.

This line up was not your typical punk rock crew of the time. Smith and Lloyd came from a strong rock 'n' roll tradition, while Ficca was a jazz enthusiast and polymath who had adopted the surname of a gay French 19th-century poet at school.

Television's first recorded attempts were not successful. They hooked up with producer Brian Eno in late 1974, but the resulting sound was "cold and brittle", according to Verlaine. It took another year of CBGB residency (often alongside Patti Smith) before the band finally signed to Elektra and entered the A&R Recording studio with legendary British engineer, the late Andy Johns, at the faders.

Despite months playing at CBGBs, Television was still a very raw band. But they were disciplined. Prior to the studio sessions, the band would rehearse for up to six hours a day, every day of the week, rejecting some earlier work, and writing new songs in the studio environment.

This constant rehearsal schedule meant the band treated the studio more like a gig than a recording, and most of the tracks on the album are performed live, in one take, with few overdubs, no compression, and no studio effects. Johns had to work with the basic tracking, and while that means there is no polish to *Marquee Moon*, it also means this is an exceptionally natural and live sounding album. The eight tracks – from 'See No Evil' to 'Torn

Curtain' – proved, and remain, surprisingly popular in a UK still reeling from The Sex Pistols, and the album was even praised for its raw, unprocessed charm in several audio magazine record reviews at the time, on both sides of the Atlantic. This has led to debates about where precisely to categorise *Marquee Moon* – is it post punk, art-punk, New Wave, or straight ahead rock? And Verlaine could best be summed up as a better lyricist than singer, as his dense lyrics are at times impossible to understand.

None of that matters, though. This is an album of immortal cool – even down to the photocopied photograph of the band on the cover (this was originally shot by the trendiest photographer on the NYC scene at that time, Robert Mapplethorpe). Those eight tracks are an uncluttered audio masterpiece. A diamond in the rough that deserves to be taken out and polished from time to time, the tracks inspired a generation of indie bands, garage bands, and alt.rockers, but all that can be forgiven. Even today, *Marquee Moon* helps shape our musical landscape! +



*Marquee Moon* by Television

Recorded: September 1976

Released: September 1977

Producer: Andy Johns/Tom Verlaine

Label: Elektra

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